





Born, Gaipur  
12th May, 1855

Died, Ranchi  
27th April, 1934

# PRAMATHA NATH BOSE

JOGESH CHANDRA BAGAL,

*Author of Mukti Sandhane Bharat, Bharatharsher Swadhinato  
O Anyanya Prasanga, Jati-Baira, History of the  
Indian Association, etc., etc.*

~~CANCELLED~~

WITH 11 ILLUSTRATIONS ~~AND~~

1955

Published, on behalf of the  
P. N. Bose Centenary Committee, 1955.

By  
Sushama Sen, M.P.  
Lok Sabha, Parliament House,  
NEW DELHI

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RASHTRAPATI BHAVAN,  
NEW DELHI.

25th September, 1955.

## Message

*from*

DR. RAJENDRA PRASAD

*President, Republic of India*

SHRI Pramatha Nath Bose was one of those Indians who took to the study of science early in life and after a brilliant career in India went out to England as a scholar and qualified in Geology. After his return he was taken in the Geological Department of the Government and thus started his great work in connection with studying and localising the mineral resources of the country. He could even at that age foresee great potentialities for industrial expansion by the development of geological resources, particularly of coal, iron and steel. It is well known that it was he who could see the great potentialities of iron ore in and around the place where the great Jamshedji Tata founded his Iron and Steel Works which are and have been working for well over 35 years. It was not only as a mere employee of the Government, entrusted with the work of studying the geological resources of India that he worked, he had the vision and patriotism to guide him in his work and the great Iron and Steel Works that are now going to spring up are within the areas which he had surveyed and whose potentialities he had foreseen. It is this great pioneering work in this line which has given

him a place in our history. But apart from his technical work, he was also a social reformer and a student of our ancient civilization about which he had written a book named '*A History of Hindu Civilization during British Rule.*' As has been pointed out in his biography, the reports of the Geological Survey contain very valuable contributions by him. I am glad that it has been possible to bring out a connected biography which, I have no doubt, will be read with interest.

Rajendra Prasad



VICE PRESIDENT

VICE-PRESIDENT'S LODGE  
2, KING EDWARD ROAD  
NEW DELHI

October 8, 1955

## Message

from

DR. S. RADHAKRISHNAN

*Vice-President, Republic of India*

I am happy to know that the centenary of the birth of Shri Pramatha Nath Bose will be celebrated on the 14th instant. I am sorry that I will be away in Saurashtra that day. It is appropriate that we should remember the pioneering work in geology done by Shri P. N. Bose which led to the establishment of the great steel industry in Jamshedpur.

It is noteworthy that this great scientist was also a humanist greatly interested in Indian culture. In his work we find a vivid illustration of the unity of knowledge.

(Sd.) S. Radhakrishnan.

*N. B.—While going to Press I have received the above message from the Vice-President, Dr. S. Radhakrishnan. We are indeed very thankful to him for his kind message which has enthused us.—Sushama Sen.*







No. 1802-PMH:55  
New Delhi,  
September, 30, 1955

## Message

From SHRI JAWAHARLAL NEHRU,

Prime Minister of Indian Union, New Delhi

I am happy to associate myself, even though distantly, with the celebration of the birthday Centenary of Shri Pramatha Nath Bose. He was, I suppose, one of the earliest of our noted scientists and a great geologist. All of us, or many of us, talk of science and geology today but in the middle of the nineteenth century it was rare for Indians to think of science. Shri Pramatha Nath Bose was thus one of the pioneers of science and more particularly of geology.

It is fitting that the Tata Iron and Steel Works, Jamshedpur, should celebrate this Centenary for it was Pramatha Nath Bose who discovered the iron ores in that area and this ultimately led to the founding of the Iron & Steel Works by Jamshedji Tata.

Let us pay tribute to this pioneer scientist and geologist of India, from whose work so much good has resulted.

New Delhi,  
30th September, 1955.

Jawaharlal Nehru

N. B.—While going to Press I have received the above message from the Prime Minister Shri Jawaharlal Nehru. This is a source of great encouragement to us. I am very grateful to him for his kind message on the occasion of the Centenary, which he gave in the midst of his most pressing engagements. This shows his keen interest in all scientific matters, which is the sure path of regenerating the country.—SUSHAMA SEN.

## PREFACE

The biography of my father, the late Pramatha Nath Bose, has long been overdue. Many of his admirers have pressed me for its publication, as they said that he was one of the outstanding scientists that India has produced.

Twenty years have elapsed since father passed away at Ranchi on the 27th April 1934, and an attempt is being made for the completion of his life-sketch this year, which coincidentally is the year of his birth centenary.

The compilation of such a biography was rather a big undertaking for me to put through alone. But I could not leave it undone. My keenness of this publication was, not because he was my father, but for what he symbolised for the country. It was to reveal his patriotic self-made scholarly life, and his advance into the fields of science, which was a fore-runner of the freedom of our country. Whether we succeed or fail in our attempt to bring out the true and real picture of such a life, posterity itself will judge.

Some factors have inevitably delayed this work. After father's death it was too painful for my mother to live alone at Ranchi, so she moved to Calcutta, to survive him only for four years. During the transit some valuable papers, letters and docu-

ments were lost. Father had a note-book in which he had written some rare accounts of China. This would have been of great interest now, as it would have served as a clue to understanding the New China of today, with which we are establishing close contact. But unfortunately this note-book was missing. Yet we got a treasure out of his own writings, such as the "Reminiscences and Recollections of a Septuagenarian," a series of articles which the *Amrita Bazar Patrika* had published. Perhaps he himself had forgotten that these articles had been preserved, as is shown from one of his last letters written to me on the 21st February 1934, when I was in London for the treatment of my child, just two months prior to his passing away. He wrote, "I rejoice to hear that you may come when the rains set in. How I long to meet you all. Hope Budha will by that time be equipped with his medical Degrees. That Bengali life-sketch of mine has some mistakes. I have got an idea of publishing my 'Reminiscences' when I step into my eightieth year next May. The *Patrika* is not likely to have the back numbers containing it." But man proposes and God disposes. Just one fortnight before he completed his eightieth year, he was called to his Eternal rest. Thus we were deprived of his last wish and his priceless contribution.

However, getting what we could gather of the materials, I was fortunate to get the expert help and guidance of Dr. Kalidas Nag, who is the author of several books. As he was going abroad for sometime, and I felt we could not afford to wait any longer, he introduced to me the present author Shri Jogesh

Chandra Bagal, who has also made a name as a writer. So the work was entrusted to him, and with hard work and great interest in this work, he has accomplished it in the shortest time possible, for which we are grateful to him.

I had approached the Tata Iron & Steel Co., through their competent Agent Mr. S. M. Dhar for help in the publication of father's biography. I at once got a cordial response from him saying, "I wish to felicitate you on your excellent idea of having the biography of your late father published. I hope it will soon see the light of the day," the letter was followed up, in due course with a cheque, as a donation towards the publication of the biography. I am indeed very grateful to the Tata Iron & Steel Co., for making it possible to fulfill one of my cherished wishes. It is even more gratifying that by this gesture the Tata Company have shown their gratitude they owe to father. It may be recalled that it was due to father's discovery of the rich deposits of iron ores in the Gurumahisani Hill in Mayurbhanj State that the Tata Iron and Steel Works came into existence. Through the kind courtesy of Mr. J. R. D. Tata, the Chairman of the Tatas, I received a copy of "Harris' Life of J. N. Tata," in which there is reference, from an impartial British writer, to the valuable contribution father had made to the Geological Survey by the discovery of the rich iron-ore mines. Dr. Meghnad Saha has referred to it in his excellent "Foreword." The author also has quoted the passages from Harris' "Life of J. N. Tata."

The enlightened Maharaja of Mayurbhanj, the

late Ram Chandra Bhanj Deo, trusted father and left it entirely to him to carry on the negotiations with the Tata Company. Being the first venture of its kind in India, the Maharaja, on father's advice, granted them very liberal terms. The State got a fair return, and father's prediction that the iron-ore mines would give the Tatas the credit of being one of the greatest Iron & Steel factories in this world, has been amply justified.

This work is an attempt to portray in a small compass the different phases of father's life and activities. He tried to live up to his motto "work is worship." Since his earliest years he had built his life on the sound foundation of the adage of "plain living and high thinking." His receptive mind assimilated all the best of the countryside in his village home of Gaipur and he became a believer of Naturopathy. He admired the simple honest lives of the villagers. Of the village women he would say that although they were illiterate yet they possessed an admirable stock of knowledge about inexpensive, efficacious and indigenous medicines. Their gastronomic knowledge, he said, was wonderful. Although orthodoxy prevailed in the village he had seen in his youth that there was perfect amity between the Hindus and Muslims. There was no ill-feeling between them. He himself used to call a Muslim dependant "Chacha." But the British policy of "Divide and Rule" brought about in due course enmity between the two communities, and to our cost we have witnessed the height of the evil consequences in our own days.

During the partition of Bengal in 1905 when the

Swadeshi Movement of boycott of foreign goods was at its height, father called upon his countrymen to take the proper perspective and to be practical and up and doing to get the country out of the mess. He said, "The aggressive imperialism of modern Europe was based on industrialism," and he offered constructive suggestions for the solutions of the problems. Besides formation of Co-operative Stores, etc., he along with some of his friends like Sir Tarak Nath Palit and Dr. Nilratan Sircar founded the Bengal Technical Institute. Father became its first honorary Principal and later the Rector of this Institute, which continues up to this day in a much bigger form.

Father's ardent desire to do good to our country finds expression when he was in England for his studies from 1874-1880. After passing this London B. Sc. with distinction, he was introduced to the luminaries of the day there. He was made the Secretary of the India Society, and as such he helped in organizing meetings in Willis' Rooms in the House of Commons, and he worked with eminent persons like Mr. Dadaboy Naoroji, Mr. W. C. Bonnerjea and others. Mr. John Bright presided over one of these meetings and father's friend Mr. Lal Mohan Ghose, who rose to be one of the greatest orators, delivered speeches. Thus they championed the cause of our country, and it went a long way in drawing the attention of the British public. The English high officials did not like father's taking part in political meetings. So they went out of their way and appointed him as the first Indian to a graded post in the Geological Survey of India.

Father's contacts and experiences in England

as well as his link with my grandfather Mr. Romesh Chunder Dutt, who had already made a name not only as an able Civilian administrator, but as a patriot and literary genius, gave him an unusual impetus to stride in the path of patriotic service for the country. His marriage with an accomplished and beautiful partner, my mother Kamala, (daughter of R. C. Dutt), made their marital life not only happy, but useful and fruitful in diverse ways. Together they went through the joys and sorrows of life, giving their utmost for the welfare of not only the family, the community, but the larger family the country. They were blessed with nine children. Their two eldest and most promising sons Asoke and Alope were snapped away by the cruel hand of death, in the prime of youth, which gave a severe blow to my parents in their old age. But their faith in the Providence never failed, and they accepted their sorrows with calm resignation. My sisters and brothers have joined in writing some of their reminiscences of father, which are published in this book, and which give fairly a complete picture of the different characteristics of his life.

The author has dealt with patriotic, scientific, domestic and humanitarian aspects of father's life and works. It is to be hoped that his production will be helpful to those who read it and inspire them with the noble ideals of work, knowledge, and selfless devotion to service which are the only way to attain a larger and fuller life, and which will lead to a prosperous India.

Sushama Sen

THE TATA IRON & STEEL COMPANY LTD.

*Bombay House, Bruce Street,  
Fort, Bombay, 1.*

CHAIRMAN'S OFFICE

*3rd October, 1955*

*Ref. CG. 167c*

Dear Mrs. Sen,

I have discussed with our Board of Directors the suggestion made by you in your letter of the 17th September to commemorate your father's services to the steel industry by the institution of a P. N. Bose Chair of Geology. The Steel Company has already created a Chair of Geology in the Patna University, and the Board felt that it would be redundant to institute a second Chair of Geology. We have decided instead to donate Re. 1 lakh to the Tata College at Chaibassa for the specific purpose of commemorating your father's services to the industry. Whether the contribution will be used for the purpose of putting up a P. N. Bose Memorial Hall or for some other suitable purpose may best be decided in consultation with the University.

We propose to announce our contribution at the Centenary Meeting at Jamshedpur, and this is merely to send you advance intimation of the decision taken by the Board.

With best wishes,

Yours sincerely,  
(Sd.) J. R. D. Tata

Mrs. Sushama Sen, M.P.,  
116-X North Avenue,  
New Delhi.





## ACKNOWLEDGEMENTS

I feel deeply indebted and grateful to Dr. Rajendra Prasad, President of the Indian Union, for kindly consenting to write a Message in the midst of his multifarious engagements. I feel a sense of pride, not only because of the eminence of Dr. Prasad's lofty position, but because he was intimately associated with my father during the latter part of father's life when he settled down at Ranchi. They often met and conferred on subjects of common interest, *i. e.*, the welfare of the country which they had uppermost in their minds. Therefore, a Message coming from one who knew him well, greatly enhances the value of this publication. Moreover, Dr. Prasad's kind words fill us with hope and comfort. I accord him my most grateful thanks.

Dr. Meghnad Saha, one of our accredited scientists of the present times, has placed me under deep obligation by writing the Foreword of this book. Being scientist himself he can well appreciate the work of another scientist. Besides, he also knew father personally, and personal contact always leaves a greater and deeper impression on the mind of one than on that of a person who has never met him. I am very grateful to him, and offer him my thanks.

We have received unstinted help and advice from Dr. Kalidas Nag, who again knew father. Indeed he has acted as one of our family, and we could never think in terms of an 'outsider' in his case. The "Homage" which he had so kindly written for this volume, will have great weight. I cannot be too grateful to him.

I have already acknowledged my gratefulness to the Tata Iron and Steel Co. for the donation of Rs. 2000/- towards the publication of this biography. It has made it possible to place before the public the life of one who had devoted himself to the scientific progress of the country. I am personally thankful to Mr. S. M. Dhar for his prompt and kind assistance.

I should also thank those gentlemen and institutions from whom the author, Sri Jogesh Chandra Bagal, has got help in the preparation of this volume. In this connection I should specially mention the help rendered to him by the authorities of the National Library, the Bangiya Sahitya Parishad, the Calcutta University Library, and the College of Engineering and Technology Jadavpur, Bengal, by supplying him rare books, periodicals and papers. The Asiatic Society of Bengal, the Geological Survey, Government of India, and the *Amrita Bazar Patrika* have also laid him under debt in this respect. Professor Nirmal Nath Chattopadhyaya, Head of the Department of Geology, Calcutta University, has rendered unstinted help to the author whenever any difficulty arose, and sometimes with very important documents and records in connection with the life of Pramatha Nath Bose.

Shri Alope De has kindly lent for our use the photo of father's Bust with the canopy at Jamshedpur, for which I am thankful to him. I cannot be too thankful to the Elm Press for its prompt help and co-operation in printing this book in an efficient manner.

SUSHAMA SEN

## FOREWORD

By Dr. Meghnad Saha, F. R. S.

I am very happy that the much needed biography of late Pramatha Nath Bose, the doyen of Indian geology, has been prepared at long last through the efforts of his daughter Shrimati Sushama Sen, now a Member of Parliament. His great contribution to Indian geology and his many-sided activities, recorded in this biography, will doubtless constitute a source of great inspiration to future generations. For his researches and discoveries of the rich iron ores in the Durg area and in the Gurumahisani Hill in Mayurbhanj State which led to the founding of the first iron and steel works by the Tatas, his name will for ever remain written in letters of gold in the history of iron and steel industry in India.

Pramatha Nath was the first Indian to join the Geological Survey (then Department) of India in a graded post in 1880. He had a brilliant academic record. In course of his work at the Survey, he introduced the study of micro-section as an aid to petrological work. This and his other researches elicited from Sir Thomas Holland, Director of Geological Survey of India, and a Member of Viceroy's Cabinet during World War I, the following lines of appreciation :

“Mr. Bose retired on 1st December, 1903, after service of over 23 years and had the satisfaction of knowing that in his last year's work, he has put the country in possession of a piece of property which, without counting his other services, is sufficient to balance the total expense to Government.”

Owing to the British policy of placing important Government establishments in charge of non-Indians, the long and able services of P. N. Bose did not receive due recognition in the Geological Survey. In 1903, he was superseded by Sir (then Mr.) Thomas Holland as the Director of the Survey, although Holland had been junior to him in service by about ten years. P. N. Bose felt the injustice of supersession so strongly that he retired from the service the same year.

In a way this led to great and unexpected happenings. He was engaged by the enlightened Maharaja of Mayurbhanj as State Geologist, which enabled him to survey the mineral resources of the State and examine more critically the rich iron deposits of Gurnahisani and neighbouring hills, previously discovered by him. His investigations proved that he had discovered extensive deposits of hematite richest in the world. At that time Jamshedji Nusserwanji Tata, who had actually conceived the idea of establishing an iron and steel industry in India and initiated preliminary investigations, was looking for suitable deposits of iron ore for the establishment of iron and steel works and had already taken a license for exploiting the iron deposits of Dhulli and Rajhara Hills in the Central Provinces. P. N. Bose immediately seized the

opportunity, invited Jamshedji Tata and his experts to visit the Mayurbhanj State and placed at their disposal the results of his own discoveries and his unrivalled knowledge of iron deposits in the Gurusahisani and neighbouring hills. This led the 'Tatas to give up their original idea of establishing an iron and steel plant in C. P. to exploit the ores of Dhulli and Rajhara Hills and decide upon the founding of the iron and steel works at the more favourable site of Sakchi for utilization of the rich deposits of the Mayurbhanj State.

The story of establishment of the Tata Iron and Steel Works and the part played by P. N. Bose in this great undertaking has been told in detail by F. R. Harris, the biographer of Jamshedji Nursserwanji Tata. In course of a visit to Nagpur, Dorabji Tata, the eldest son of Jamshedji, chanced to see a geological map of the Central Provinces where he noticed the Drug District marked as a region containing large deposits of iron ores. In the local museum he also found a specimen of good iron ore from the Drug area. On pursuing the records of the geological survey, Dorabji found that 15 years earlier P. N. Bose, a Bengalee Officer of the Survey, had reported the existence of iron ores in the district. Apparently this work was not pursued, for Mr. Harris writes that "had Mr. Bose pushed his enquiries a little farther, he would have stumbled upon one of the richest deposits of iron-ore in the world." This work was accomplished by Tata's American engineer and geologist Mr. C. M. Weld, who proved the richness of the deposits of the Dhalli and Rajhara Hills, contain-

ing as much as  $67\frac{1}{2}$  per cent of iron. It is recorded that when the information of the discovery was communicated to Sir Thomas Holland, then Director of the Geological Survey, he was frankly incredulous and could not believe that ore deposits so rich in iron content, had been found in India. The area was visited and the deposits were examined by Sir Thomas and the geologists of the Survey, who confirmed the findings of Mr. Weld. An account of the iron-ore deposits of Dhulli and Rajhara Hills was given in the *Quinquennial Review of the Mineral Production of India during the Years 1904 to 1908*, prepared by Sir Thomas Holland and Dr. (later Sir) L. Leigh Fermor.

Enthused by this success, the Tatas selected Padampur, near Sambalpur, as a possible site for their steel works and started other investigations. The Tatas were still not very satisfied with their site because of its considerable distance from the coal fields of Jharia and Ranigunj and were hesitating on their final decision, when one morning a letter came from P. N. Bose, drawing their attention to the iron deposits of Mayurbhanj and requesting them to visit the State. P. N. Bose's knowledge and experience in the field were already well known to Dorabji and his engineers. The importance of the discovery of iron ores so near the coal-fields of Bengal was so great that P. N. Bose's invitation, although perplexing at that stage, had to be dealt with seriously. Mr. Dorabji Tata, Mr. Charles Page Perin, an eminent consulting engineer of New York, Mr. Weld and Mr. Saklatvala visited the iron districts of the State. According to the biographer of J. N. Tata :

“In the lofty Gurumahisani Hill, which rises to a height of 3,000 feet, they found enormous deposits of iron ore, quite as extensive as these at Dhulli and Rajhara, not so compact and not quite so rich, but mere favourably situated. They further found hundreds of acres of rich ‘ore-float’-ore lying loose on the surface, which required no mining, and simply had to be picked up by unskilled labour. The explorers were in the presence of a treasure-house far more potentially valuable than most gold mines.”

This inspection left no doubt that Mayurbhanj offered advantages superior to those of Dhulli and Rajhara. It was far nearer the sea and nearer the coal-fields. Its economic advantages were enormous. The Sambalpur Scheme was abandoned and the terms of mining rights were soon settled with the Maharajah of Mayurbhanj.

This is an exciting story whose central figure was P. N. Bose. A silent worker and man of integrity, courage and conviction, P. N. Bose rendered invaluable service to the cause of iron and steel industry directly and indirectly to the cause of general industrial development of the country. The life of this fascinating career must be more widely known.

Mr. F. R. Harris, biographer of J. N. Tata, remarks :

“In the story of the industrial development of India Mr. Bose is assured of permanent mention. His inquiries were the prelude to the discoveries of Mr. Weld in the Drug area and he now pointed the way to still more promising results.”

It is obvious that but for the selfless services



of Mr. P. N. Bose, the Tata Iron and Steel Works would not have achieved their present stature, and it is desirable that the tribute should take a more tangible shape in the form of a Pramatha Nath Bose Chair of Geology in some Indian University.

I am glad that the biography of P. N. Bose has been written by the well-known writer Sj. Jogesh Chandra Bagal. Sj. Bagal has established a reputation for scientific scholarship and balanced judgment. He has tried his best to bring out the 'Man' in the biography and I have every hope that thereader will enjoy its reading.

MEGHNAD SAHA

HOMAGE TO ACHARYA PRAMATHA NATH  
BOSE (1855-1934)

By Dr. Kalidas Nag, D. Litt. (Paris)

I consider it my rare good fortune to meet our pioneer scientist Pramatha Nath Bose during the last five years of his eventful life. His talented daughters and sons are also very kind to me and through their friendly co-operation I could jot down some of my observations on the life of that sage of Bengal whom every Bengali, nay every Indian, should remember with gratitude. Our friend Sri Jogesh Chandra Bagal (of the *Prabasi* and *The Modern Review*) has painstakingly compiled a dependable biography of the Acharya and I add a few notes as my personal homage to him.

As General Secretary of the Asiatic Society of Bengal (1942-46), I had the privilege of exploring and arranging the valuable old records of the Society partly utilised in the Bicentenary Volume for its founder Sir William Jones (1746-1946). The century of the foundation of the Society (1784-1884) was duly celebrated by its renowned President Dr. Rajendralala Mitra (1824-1891) who was the first to discover the merits of Mr. P. N. Bose and entrusted

him with the heavy task of giving, in print, a systematic survey of scientific literature in India during the Society's first hundred years. I may venture to say none but Mr. P. N. Bose could have written it with greater thoroughness and authority and I hope that his monograph would be reprinted soon, with adequate Supplementary Materials by the rising generation of Indian scientists.

I remember that President Rajendralala Mitra was born within a few months of the historic demand, of Raja Rammohun Roy (in his letter to Lord Amherst, December 11, 1823) for the education of the Indians "in Mathematics, Natural Philosophy, Chemistry, Anatomy and other useful sciences which the nations of Europe have carried to a degree of perfection that has raised them above the inhabitants of other parts of the world."

The British Government, however, refused to support any scheme of scientific education for the natives who, meanwhile, were sending to the newly founded (1835) Medical College of Calcutta brilliant youths like Rajendralala Mitra and S. Chakravorty for medical training in India and abroad. Prince Dwarkanath Tagore (1794-1846) personally met the expenses of two such students studying in England. The short-lived periodicals of Bengal, published during the first half of the nineteenth century, show increased interest in scientific topics permanently encouraged through the Journal of the Asiatic Society under the lead of the Scientist-Orientalist James Prinsep (1799-1844). In 1833 was born Mahendralal Sircar who became a fully qualified M. D. in 1863 and founded in 1876 the first Indian Association for

the Cultivation of Science. In 1849-50 were born Prasanna Kumar Ray (fellow-student of Lord Haldane) and Aghorenath Chatterjee both shining brilliantly as students of Moral Sciences and of Chemistry in the University of Edinburgh. In 1852 was born Girish Chandra Bose (founder of the Bangabasi College) who showed brilliant results in England in Botany and Agricultural Sciences. In 1855 Pramatha Nath Bose saw the light of day, and he returned to India (1880) to complete the history of scientific progress (1784-1884) on the occasion of the Centenary of the Asiatic Society when two other men of science, Jagadish Chandra Bose (born 1857) and Prafulla Chandra Ray (born 1861), were starting their career of scientific research.

The life of P. N. Bose, therefore, stands as the symbolic link between the epoch of India's demand for scientific education and its fulfilment through the creative research of Prof. J. C. Bose and Dr. P. C. Ray and their brilliant pupils and successors (1890-1950). When the history of scientific studies in India will be written P. N. Bose and his career will shine as one of its brilliant chapters.

Pramatha Nath stood first in the Public Examination winning the Gilchrist Scholarship in 1874 and he spent nearly six years in Europe (Oct. 1874-May 1880) studying among other things Chemistry, Botany, Zoology, Geology, Logic and Mental Sciences for his B. Sc. degree of the University of London, inspired by the lectures of eminent scientists of the stature of Prof. Huxley. Returning to India at the age of twenty-five he joined the Geological Survey of India in 1880 and continued to serve till 1903 for

twenty-three years ; and his valuable scientific contributions in those years have been recorded in their publications.

But I and my colleagues of the Asiatic Society were amazed to find what a versatile and well-posted scientist was Pramatha Nath when in 1884-85 before attaining the age of 30 he completed the survey of scientific researches in India and abroad between 1784-1884. It is a first class monograph (which should be reprinted) of over 100 pages, and it discussed analytically the following topics : Mathematical and Physical Sciences including Astronomy, Trigonometrical Survey, Meteorology, Tidal Observations, Law of Storms, Electrical Researches, Photography, Coining Process, etc. In this section he added a special note on the "Mathematical sciences of the Hindus" (long before Dr. Thibaut) in which he referred to the Hindu astronomical tables taken from Siam to Europe in 1687 by a Frenchman La Loberé. Those tables were finally explained by the great astronomer Cassini and in 1760 Mon le Gentil came from France to India to observe the transit of Venus and communicated results to the French Academy in 1773. The subject was taken up by the most renowned mathematician Mon Baily who published in 1775 his "History of Astronomy from its Origin to the Alexandrian School." He followed it up by his History of Indian Astronomy in 1787 and, from that date, French, German and British Scientists have been compiling information on Hindu Positive Sciences. Pramatha Nath remembered in a special note that the Astronomer-ruler of Jaipur, Raja Jai Sing of Dhunder, completed

by 1728 new Astronomical Tables and set up instruments of his own device in Delhi, Jaipur, Mathura, Benares and Ujjain. Pramatha Nath with real patriotism also remembered the services of Radhanath Shikdar (reputed first calculator of Everest heights) who compiled from 1853-1864 the meteorological observations from the Surveyor General's Office and got them published in the Society's publications as a member of its Physical Science Committee.

In the last fifty pages of his monograph Mr. Bose discussed Chemistry, Geography, Ethnology, Zoology and Botany so that we feel that he was an "all rounder" in science in those days when none of the universities of India thought of teaching science. Lastly to Geology, his speciality, he devoted one-third of his monograph which alone should have provoked the University of Calcutta (if it were a national, not a foreign University) to offer to P. N. Bose the first Chair of Geology in India. In the last decade of the nineteenth century he actually lectured on Geology at the Presidency College as I heard from his renowned son-in-law, B. L. Mitter (first an M. A. in Geology, then a brilliant barrister).

In 1882 Pramatha Nath married Kamala Devi, the eldest daughter of Romesh Chunder Dutt who invited to the happy wedding among others, Bankim Chandra Chatterjee and Rabindranath Tagore. The latter, a young poet of 21, was garlanded by Bankim, the maker of modern Bengali literature. The poet gratefully remembered the incident in his Memoirs; and he retained till his last days, the tenderest relations with Mr. Bose and his family

for (as recorded by Mr. Bose) Rabindranath was a pupil of Mr. Bose, in his student days in London (1879-80) and the poet has also given us a brilliant book ( विश्व-परिचय ) to popularize science through our mother tongue.

Science to Mr. Bose was not only a means of intellectual edification but also for the material well-being of man. So he started (unsuccessfully) as a soap manufacturer and then planning of so many national industries.

In the days of the birth of the Indian National Congress (1885-86) he was giving to the nation his blue-print of "Technical and Scientific Education." He laid the foundation of the Indian Industrial Conference in 1891, over which he presided, and its offshoot the Indian Industrial Association he served as its first Secretary. So the industrialists of Bengal should come forward to build a worthy memorial on his centenary.

Retiring in 1903 from the Government service, he began his independent career of prospecting in different parts of India. But his epoch-making discovery was that of iron ores in the State of Mayurbhanj. It led to the growth of one of the biggest iron and steel industries in Asia, developed by J. N. Tata and his successors in Jamshedpur. With the advent of the Swadeshi Movement we find Acharya Pramatha Nath as our unique leader teaching the nation to attain to economic self-sufficiency through industries, trade and commerce. His Bengal Technical Institute slowly grew into the Jadavpur College (now a University) of Engineering and Technology which he served for nearly two

decades from 1906 to 1921 as Honorary Principal or Rector.

When I had the privilege of sitting at his feet in his peaceful Ranchi *Ashrama* he was past seventy, and yet vigorous and creative in thought like a true Indian sage. I found in him a great historian and philosopher, not merely a master of technical sciences. I heard that in 1877 when he was a youth of twenty-two, he got a prize by communicating to the Rome Session of the International Congress of Orientalists a paper on the "Aryan Civilisation in India." Since 1882 when he became a member of the family of R. C. Dutt (translator of the Rig-Veda) Pramatha Nath continued his historical studies and published in three volumes his "Hindu Civilisation during the British Rule" (1894-96). Ten years after retirement from service, he published his "Épochs of Civilisation" (1913) which gave us much food for thought while we were students of history in the Post-Graduate classes. He kindly enquired about our trends of thought and presented to me some of his constructive criticisms like "Some Present-day Superstitions," "Illusions of New India," "Survival of Hindu Civilisation," "Éssays and Lectures," etc. Pramatha Nath lived to the ripe old age of nearly eighty but he showed us the rare example of a dedicated life, using up the last ounce of his vitality to the uplift of the common man of his Motherland. He was ever busy giving fatherly advice to the poor, humble cultivators, developing rural co-operatives, fostering sale of cottage industries and above all preaching by daily practice, the eternal Indian ideal of plain living and high thinking. Alas !



few of his friends of Ranchi have preserved in writing concrete records of his multipurpose rural uplift schemes. But I have seen how devoted to him were the Adibasis and the poor folks coming to express to him their profound gratitude. One of the oldest races of Asia—the Ho-Mundas still inhabit the Ranchi district, and its glorious landscapes charmed the last few years of his life. Pramatha Nath Bose has enriched India by his momentous discourses and researches and has elevated our nation by his sacrifice, his sufferings and his spiritual vision which the sons and daughters of Free India should gratefully remember.

15th August, 1955

Kalidas Nag  
 President,  
 Bharatiya Samskirti Sansad,  
 (Indian Cultural Association).

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## CHAPTER I

### INTRODUCTORY

THE subject of our study, Pramatha Nath Bose, popularly known as P. N. Bose, was an ardent votary of science. He lived for nearly eighty years. During this period India witnessed many significant changes. Science played a very important part in these changes. A votary of science, Pramatha Nath's role will be narrated in the following pages. But before we do this, it is but proper that we should note the principal trends of scientific education and research obtaining in the country.

The Hindus excelled in positive sciences in ancient times.\* But during the medieval period Europe had a march over them. And it was with the advent of the British in the East that modern science came to be regarded as a subject of study and research in India. The Asiatic Society of Bengal, founded in 1784, provided the earliest forum of studies and research in modern science during the British period. Some officers of the Government engaged themselves in research work while on official duties. The results of their research were often discussed in the Society's

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\* For a detailed account, *vide* Dr. B. N. Seal's *The Positive Sciences of the Ancient Hindus*, London, 1915, and Prof. Benoy Kumar Sarkar's *The Positive Background of Hindu Sociology*, Book I, 1914.

meetings and published in its *Asiatic Researches* from 1789 onwards and later in its *Journal*.

In the late eighteenth and early nineteenth century Indians could not join these discussions, or share these researches of the Society. English education in India practically began with the establishment, mostly by non-official Indians, of the Hindu College of Calcutta in 1817. Indians, who had earlier come into contact with European officers who were also scholars, felt the necessity of scientific studies. The Hindu College could have been turned into a centre of regular science-teaching. But it did not get the necessary assistance from Government.

In 1823 the Government set apart a big sum of money for the establishment of a Sanskrit College, where education would be given according to traditional methods. Rammohun Roy voiced a strong protest against this action of theirs in a letter addressed to Lord Amherst, Governor-General of India, dated 11th December, 1823. In the letter he suggested that 'this sum would be aid in employing European gentlemen of talent and education to instruct the natives of India in Mathematics, Natural Philosophy, Chemistry, Anatomy and other useful sciences, which the nations of Europe have carried to a degree of perfection that has raised them above the inhabitants of other parts of the world.\* At the end of the letter Rammohun Roy fervently hoped that the Government would 'promote a more liberal and enlightened system of instruction, embracing Mathematics, Natural Philosophy, Chemistry and Anatomy

\* *The English Works of Raja Rammohun Roy. Panini Edition, p. 472.*

with the sum proposed by employing a few gentlemen of talent and learning educated in Europe, and providing a college with the necessary books, instruments and other apparatus.\*

The Hindu College appointed Dr. Ross Professor in Chemistry in 1823, whose pay was paid by the Government. The British India Society of London, a non-official body, sent a number of scientific apparatus for the use of the College. This was all that was done. The Government did not change their policy with regard to Indian education at the time. A radical change was, however, effected a decade later in 1835. English became the medium of instruction in Government institutions. The major portion of the Government grants was diverted to English schools and colleges. But Macaulay's *Minute*, which was responsible for this change, totally overlooked the objects for which Rammohun had pleaded so fervently in the previous decade. Macaulay gave unusual prominence to education of the literary sort, specially the study of Western literature instead of Eastern. His *Minute* ignored the scientific education of the people, which led to the rapid industrialisation of his own country and added tremendously to its power and wealth.†

No appreciable change was, therefore, effected in the curriculum of the Hindu College, now converted

\**Ibid.*, p. 474.

† P. N. Bose's observations on Macaulay's *Minute* deserve special mention. According to him :

"At the time he (Macaulay) wrote Europe had begun to make amazing progress in Natural Science and in its application to industry. If useful knowledge of the West had been imparted to the Indian alumni from the very beginning the annihilation of Indian industry might possibly have been averted."—*Illusions of New India* (1916), pp. 80-1.

into a government institution. The Calcutta Medical College was established in early 1835. It was here that some sort of science-teaching was arranged. Students were taught Physics, Chemistry and Botany. But this was subsidiary, and necessarily of a very elementary nature. The college was again not open to the general run of students. Eminent professors, scientists of international reputation, such as Dr. Nathaniel Wallich and Dr. W. O'Shaughnessy, gave lessons in Botany and Physics respectively. But few of the medical students could engage in higher studies in these branches of pure science.

Scientific journals had been published in Calcutta both in English and Bengali, long before the establishment of the Calcutta Medical College. The Calcutta Medical and Physical Society brought out a scientific journal in the early twenties of the last century. But it had to be stopped in 1827. Another journal, *Gleanings in Science*, soon came out in 1829 to satisfy the cravings of the European officials and non-officials for scientific knowledge. James Princep, the famous scientist and orientalist, took over its charge in 1830 and edited it creditably till 1832, when, in March, he started publishing *The Journal of the Asiatic Society of Bengal* at his own cost to insert scientific papers solely in it. There were two other English journals, the *Calcutta Journal of Natural History* and the *India Review*, the latter being a miscellany of Sciences and Arts, edited and published by Dr. Frederick Corbyn. Bengali journals, such as *Paswabali* (1822), *Bijnan Sevadhi* (1832), and *Bijnan Sarsamgraha* (1833) were published for catering to the scientific education of

the Bengalis. Rammohun's *Sambad Kaumudi*, a popular Bengali weekly, also published scientific articles in early twenties. The scientific researches and other activities of the professors of the Medical College found publicity in the *India Review* of Dr. Corbyn.

The young men, educated in the Hindu College, founded associations and societies in which students of the Medical College discussed various scientific matters. In the forties and fifties these discussions were continued and published often in form of articles in the *Tattwabodhini Patrika* (1843), organ of the Tattwabodhini Sabha. Its editor, Akshoy Kumar Dutta, found special delight in writing on scientific subjects. The Hindusthani and the Bengali classes of the Medical College gave impetus to the translation in the Indian languages of books on Physiology, Anatomy, Medicine and Medical Jurisprudence, besides books on Elementary Physics, Chemistry and Botany.

Dwarkanath Tagore's services to the study of medical science in India also deserve special mention. He contributed sufficient funds to the authorities concerned in order to disburse them in form of prizes to the best scholars of the Medical College. For higher studies in medical science four students of the Medical College went to England in 1845. This was made possible by the generous offer of Dwarkanath Tagore to bear all the expenses of the two. Of these four scholars, Dr. Surya Kumar Goodeve Chukervutty made solid contribution to medical science in after-life.

But whether in the Hindu College or in the Medical College there was little opportunity for

Indian students of actual research in Natural Science. This credit is solely due to the non-official colleges in Bengal. The Serampore College of the Serampore Baptist Mission had introduced the study of Natural Science in general, and Chemistry in particular as early as 1823. The Rev. John Mack of the College not only delivered lectures in the college-rooms but also spoke to the lovers of science in Calcutta on the subject. A chemical laboratory was set up at the college, where Dr. Mack gave lessons to the students in practical Chemistry. Professor Mack, a linguist to boot, acquired such proficiency in Bengali that he wrote a Bengali treatise on Chemistry, named *Kimiyabidya Sar*, and got it published from the Mission in 1834. This is the first Bengali printed book on Chemistry. The Calcutta Duff College, too, made some arrangements for the study of science. Again, it was left for the St. Xavier's College of Calcutta, a Jesuit Missionary institution, to lay foundations of the Physics Laboratory in 1866 under the direct supervision and guidance of the Rev. Eugene Lafont. The foundation of a chemical laboratory was also laid there and the Government helped it this time with a lump grant. Father Lafont paid special attention to the physical laboratory, the favourite child of his affection.

The Government of Sir George Campbell introduced the teaching of Chemistry in the mofussil colleges under their charge, but this was purely theoretical, no laboratory being opened there. Even in the Presidency College very little opportunity was afforded to students for practical scientific instruction. In the seventies, too, the St. Xavier's College enjoyed the unique position and privilege of practical science-

teaching in the laboratory. Eminent scientists like Pramatha Nath Bose and his younger contemporary Sir Jagadish Chandra Bose, received inspiration in their higher studies in Natural Science in the laboratory-room of the St. Xavier's College, presided over by Father Lafont.

The Indian Association for the Cultivation of Science was founded in 1876 by Dr. Mahendra Lal Sircar after strenuous efforts for a number of years. Research in Positive Science was its main object, and Father Lafont co-operated whole-heartedly with the efforts of Dr. Sircar. Dr. Sircar also found a warm advocate of Positive Science in the Brahma leader and reformer Brahmananda Keshub Chunder Sen, who helped him at its initial stages by securing donations from the Cooch-Behar Raj and other rich magnates. Columns of *The Indian Mirror* and the *Sulubha Samachar*, both run by Keshub Chunder, were open for Dr. Sircar for propagating the cause of the Association. Keshub Chunder was an enthusiastic member of the Executive Committee of the Science Association and his contemporary Bankim Chandra Chatterjee advertised the objects of the Association in a thought-provoking article in his *Bangadarshan*. It, however, took considerable time for the Association to open laboratories for scientific research.

There being no institution for higher studies in Natural Science in India, students had to go abroad to prosecute higher scientific studies. The Gilchrist Scholarship, instituted by the then Government, enabled meritorious students of small means to go to England for these studies. Dr. Aghor Nath Chatterjee (1850-1915), father of Sorojini Naidu, and



Prosonna Kumar Ray (1849-1932), better known as Dr. P. K. Ray, belonged to the first batch of these scholars. Pramatha Nath Bose immediately followed them in 1874. The next group included Girish Chandra Bose, Bhupal Bose (Botany and Agriculture) and such scientists of international fame as Acharya Jagadish Chandra Bose and Acharya Prafulla Chandra Ray. Some of them were the recipients of either the Gilchrist or the Bengal Government scholarships.

Acharya Prafulla Chandra Ray has also left us an account in his autobiography\* as to how he was induced to sit for the Gilchrist Scholarship examination in 1878 while a student of the Metropolitan, now Vidyasagar, College.

Research in Natural Science for which Pramatha Nath pleaded so vigorously in the eighties and nineties of the last century was being pursued in their individual capacity in right earnest by Dr. J. C. Bose and Dr. P. C. Ray in the Presidency College of Calcutta. But Pramatha Nath's services in the introduction of scientific education and research in our universities and academic institutions can never be over-estimated. His untiring efforts for the application of modern scientific methods to the industrialisation of the country should also be specially remembered. A true patriot, Pramatha Nath worked hard in the late nineteenth and early twentieth century for the all-round progress of our common Motherland. His life still casts a beacon-light over our country's progress.

\**Life and Times of a Bengali Chemist*, Vol. I, pp. 48-9.

## CHAPTER II

### EARLY LIFE AND ENVIRONMENTS

*Gaipur—The Bose Family—Birth—Healthy Environments—the Jamuna—Prosperous condition of the villages on her banks.*

Village Gaipur, the birth-place of Pramatha Nath Bose, stands on the eastern bank of the Jamuna, once a big navigable river. The village constitutes a part of the Kushadaha Pargana. In former times this Pargana was famous for Sanskritic studies. Adjacent to Gaipur is Gobardanga. Here lives the Zamindar family of the Mukherjees, who were noted for their influence and liberality. The Municipality, the Schools (both for boys and girls), the College, the Bazar, the Railway station—everything goes by the name of Gobardanga. Nevertheless, Gaipur and Khantura, another neighbouring village, attained considerable distinction in the latter half of the nineteenth century. Progressive movements like the Brahma Somaj found a strong foothold at Khantura. A Bengali Model School was started there. The Bengali weekly, *Kushadaha Patrika*, was also issued from this place. The paper was later amalgamated with the famous *Sulabh Samachar* of Calcutta, founded by Brahmananda Keshub Chunder Sen. Gaipur has a Town Hall named after Pramatha

Nath Bose where the Government Hospital is now housed.

The Kushadaha Pargana, of which Gaipur, Khantura and Gobardanga are the three main constituents, was included in the mid-fifties in the Nadia district, known at the time as 'Nadia Division.' Central Bengal was then divided into four such divisions (namely, Alipore Division, Baraset Division, Jessore Division and Nadia Division) with thirteen magisterial courts. For the proper administration of these wide tracts and for coping with the Indigo troubles of 1859-60, these divisions (latterly known as districts) were divided into eighteen sub-divisions with an equal number of magisterial courts in 1860-61. Territorial re-arrangements were necessarily effected in some places. It was at this time that the Kushadaha Pargana was wrested from Nadia and added to the Satkhira sub-division in the district of 24 Parganas. At the time when Pramatha Nath was born Krishnagar was the head-quarters of these villages, and people went there for professional, domestic and educational purposes.

The Jamuna flowed through the Kushadaha Pargana, rising from the Bhagirathi on the west and falling into the Ichhamati on the east. She showered health and prosperity over the villages on her banks. The people were healthy, energetic and industrious. Vaishnavism was the predominant cult in these villages. Stories of the association of Lord Krishna with these villages became current and found a place in medieval Bengali literature. The people still remember with pride a tradition which "points to this place (Gobardanga) as the spot where Krishna tended his flocks. Gaipur is said to have

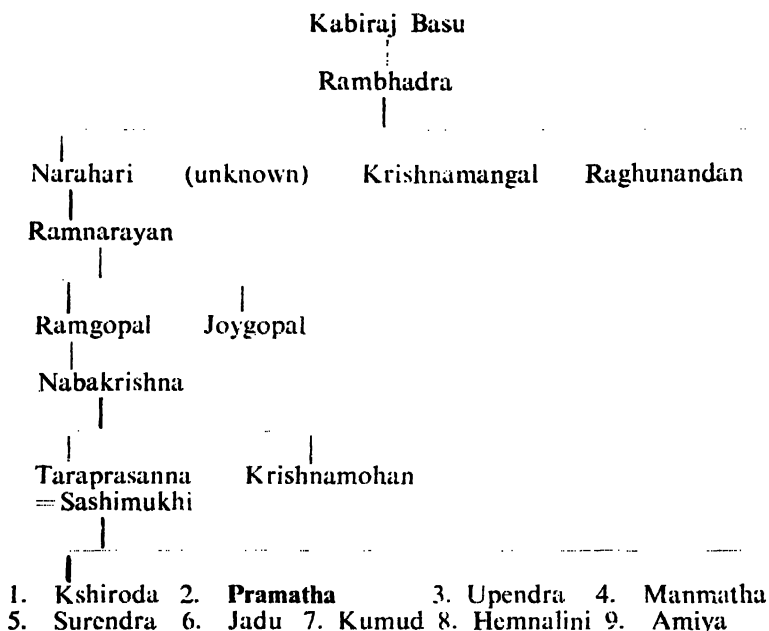
been the home of the Gopinis, or milkmaids, with whom Krishna sported, the embankment across the river is called Gopinipota, and an adjoining village bears the name of Kanhainatsal meaning "Krishna's pleasure seat."\* The Pargana was famous for sugar and molasses which were exported to distant parts of the country. There were also many indigo-concerns, which at one time proved a source of income to the villagers. Remnants of *Nil-Kuthis*, as these indigo depots were called in Bengali, are still found there. Gaipur shared with the neighbouring villages the joys of health and prosperity, derived from these industries. Most of the villagers possessed arable lands where food-crops were grown plentifully. Latterly jute formed a principal item of cultivation.

There were three Kayastha families of note at Gaipur—the Majumdars, the Boses and the Mitters, of whom the Majumdars were the oldest. They each have their *Kuladevatas*, namely, Radhakantajiu, Gopinathjui and Kalachandjui. Kabiraj Basu, the founder of the Gaipur Bose family, married a daughter of the Majumdars, whose family surname is "Dutta," and settled at Gaipur sometime in the first half of the eighteenth century, having obtained from Raja Krishna Chandra of Nadia, with the help of the Majumdars, several bighas of land for the construction of a family residence. He was also granted about twenty bighas of arable land rent-free. The *Taidad* or the deed of gift was certified in 1823, in which Kabiraj Basu was mentioned as the guarantee and his four grandsons as the then possessors of the property. The genealogical table of the Bose family,

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\* *Bengal District Gazetteers : 24 Parganas*—L. S. S. O'Malley, p. 239.

with special reference to Pramatha Nath Bose, is given below :



Pramatha Nath's grandfather on the maternal side was Birnarayan Mitra of village Sundarpur, district Jessore. His daughter Sashimukhi was given in marriage to Taraprasanna Bose of Gaipur. Pramatha Nath was the second child and the first male issue of his parents. He has written about his birth, his mother, brothers and sisters and the family physicians as follows :

"I was born at Gaipur ( a village which at the time and for some years afterwards was included in the district of Nadia) on the 12th of May, 1855. My mother was then, I believe, about eighteen, and a sister had preceded me. She was in present-day parlance a 'child wife'. She bore nine children of

whom all are alive except three (one of whom was accidentally drowned while bathing in a river), and she lived to a good old age bordering upon eighty, maintaining fairly good health all along. A woman of one of the lowest castes (Hadi) helped my mother to usher me into existence. There were no trained midwives in the village, or in fact allopathists of any description. There was a Kaviraj, but his visits to our house were few and far between. We were generally treated by my grandmother and other elderly ladies who possessed a wonderful stock of simples for all sorts of ailments. They were not nonplussed by accidents which, now-a-days, would give a mortal dread for imminent septicoemia. The truth is we have the five best physicians—sun-shine, air, water, exercise and diet. As infants we were exposed bare-bodied in the sun.”

Pramatha Nath has also left us a graphic description of the village in its various aspects—outdoor games, food, clothing and medicine. As regards the outdoor games of his early days in the village Pramatha Nath writes :

“In regard to outdoor games, foot-ball, hockey, etc., had not yet been introduced. The commonest games which afforded us good exercise, were Dandaguli and Ha-du-dudu. The former is a kind of inexpensive bat and ball game with a large stick for a bat and a small piece of wood for a ball. It has now gone out of fashion, but Ha-du-dudu has survived though its popularity is eclipsed by that of football. We used to bathe and swim in the river Jamuna which flowed past our village and which is now largely silted up, meeting the Bhagirahi and Saraswati at Tribeni. Kite-flying during the season afforded great amusement, and kite-flying matches in which huge kites were used attracted large crowds of spectators as football matches now-a-days.”

Our food was a good deal more wholesome and nutritious than what obtains among the middle-class *Bhadralok* families today. Adulteration was unheard of. Light refreshments consisted of grams soaked in water, *muri* (inflated rice), *chira* (beaten rice), kernel of cocoanut, *chhana* or *sandesh*, etc., There was a plentiful supply of fresh fish from the river or tank and fruits and vegetables usually from orchards and kitchen gardens. The middle-class families were more or less self-contained. Writes Pramatha Nath :

“In this respect my maternal uncle’s family at Sundarpur in the district of Jessore were much better off than ours. They had their fish supply from a *Baour* (deserted loop of river), close to their house, milk from their cattle, and cereals, pulses, etc. from their fields. Besides, they had a large number of date palm trees, from which Gur was prepared and a portion of it was refined into coarse sugar, a part of which, I believe, being sold, supplied the means for a portion of the textile requirements of the family.”

Village ladies, though mostly illiterate, were by no means so ignorant as they are often supposed to have been. They possessed an admirable stock of knowledge about inexpensive, easily available, efficacious indigenous medicines for diseases. Pramatha Nath writes of the ladies of his village particularly but this obtained in other localities also. He continues :

“Their gastronomic knowledge was no doubt wonderful. They were the repositories of highly useful information about the various articles of our dietary, and the way in which they should be economically utilised, and were experts in the preparation of

various delectable sweets, condiments and other comestibles. The cooking was done by them. The kitchen was a model of cleanliness, and the food turned out was pure and toothsome. Then again, the cooking was done with wood-fuel which is better for health than cooking with coal."

Though innocent of the three R's, the ladies of the village were not less cultured and active. Pramatha Nath further writes :

"Besides useful information pertaining to household work, the elderly ladies were well-versed in the legends of the Ramayana and the Mahabharata, gathered, I believe, mainly from *Kathaks* and the performances of *Yatra* and *Panchali* ; and their high ideal of self-sacrificing duty was especially in evidence in their treatment of guests, and the way in which they helped their neighbours in case of illness and in various social functions. The ladies had plenty of physical exercise doing their household duties. Besides, they not only walked to houses in the immediate neighbourhood but also, if invited, from one part of the village to another. In the evening they mingled with the crowd that gathered at the *Thakurbati* for the *Arati*."

About the joyful life of the village, he witnessed in his early years, Pramatha Nath has given us an account as follows :

"I have a vivid recollection of the joyful life we led in the village. There was malaria, but not of the fulminant type which has committed great havoc within the last four decades and converted it into a howling jungle. We were not at all scared by it. When we had fever, we were put out in the sun covered with a thick quilt to induce perspiration. Quinine was unknown. The only thing I remember taking by way of medicine is the juice of the leaves of *Shefalika*.



(*Nyctanthes orbortristis*). The truth is, there was no railway at the time with its high embankment pressed by the weight of running trains into an imperious wall and bordered by pestilential pools. And our roads had no embankments and were passable only for bullock carts, the well-to-do using palanquins. There was free drainage from the village into the paddy fields, whence superfluous water was carried by Khals into the river. Besides free drainage, we had as I have shown above the inestimable advantage of pure, wholesome, nutritious food and of plenty of fresh air and sunshine. Thus we gained in vitality which stood us in good stead in case of fever and other ailments. In fact, such health as I am now enjoying in my seventy-seventh year is, I think, largely attributable to it."

With particular reference to his village, Pramatha Nath observes :

"Our village was at its best and gayest during the Durga Puja. Men who owing to the exigencies of service or profession had to live away from it then came home, and the whole village was *en fete*. The communal problem did not then exist. I used to call a Mahomedan servant of ours Kaka (uncle). There was perfect amity between Hindus and Mahomedans and between the high and low-caste Hindus, and they all whole-heartedly joined in the Puja entertainments. Such present-day slogans as those about equality, democracy, etc., had not yet begun to disturb communal concord, and cash payment had not yet become the sole nexus between the different classes."



Sashimukhi Bose, Mother of Pramatha Nath Bose



## CHAPTER III STUDENT DAYS

### SCHOOL

*Khanlura Bangabilyalaya—Krishnagar Collegiate School—"Progressive" Krishnagar—Influence of Brahmananda Keshub Chunder Sen—the Hobby of composing poems—Publication of a book on poetry—Entrance Examination, 1871—Results*

By the mid-fifties, the educational policy of the Government underwent considerable change. Hitherto the State agency—the Council of Education as it was then called, laid unusual emphasis on English instruction, and the teaching of Bengali was almost neglected. The Bengali model schools started under the orders of Lord Hardinge in 1844, did not prosper for want of governmental sympathy. This state of affairs did not continue for long as the authorities in England sent the famous Education Despatch of 1854 in which they asked the local Governments to adopt adequate measures for the encouragement of vernacular teaching. The Government of Bengal created an additional post of Assistant Inspector, Southern Bengal, to look after and organise the vernacular education. Their choice fell on Pandit Iswar Chandra Vidyasagar, Principal of the Government Sanskrit College, Calcutta. In his capacity

as Additional Inspector, Pandit Vidyasagar established a number of Bengali model schools or *Bangabidyalayas* at select places in the districts of Nadia, Hugli, Burdwan and Midnapur throughout the latter half of 1855. One such model school or *Bangabidyalaya* was opened at Khantura on 12th August, 1855. Bengali being the sole medium of instruction in these schools, pupils got a good grounding in their mother-tongue. Pramatha Nath's schooling began in the Khantura *Bangabidyalaya*. He remained a pupil there up to the age of nine, when he was shifted to Krishnagar.

Pramatha Nath's grandfather, Nabakrishna Bose, was a Mukteer at the Krishnagar Court. He enjoyed a considerable practice, and was loved and respected by the people of the locality. Taraprasanna, Pramatha Nath's father, could not look after his young son Pramatha as he held a post in the River Police under the Government of Bengal. He had to move from place to place constantly on official duty. He, therefore, thought it advisable to leave Pramatha under the charge of Nabakrishna at Krishnagar.

Krishnagar was a "progressive" town. The message of the Brahmo Samaj reached the place in the early forties. Maharshi Devendra Nath Tagore visited the place at the time, and the Maharaja of Krishnagar was induced to start a Brahmo Samaj there. With the establishment of the Krishnagar College in January 1846, great educationists and intellectuals like D. L. Richardson, Ramtanu Lahiri and others came to the town and gave a tone to the progressive movements. A man of noble character and high idealism, Ramtanu Lahiri, an inhabitant of

Krishnagar, came in close touch with the younger section and began to mould their character by his own example and precept. He sat at the feet of the great poet-teacher H. L. V. Derozio and imbibed the love of truth and service, besides the intellectual fervour of the master. The students of the Krishnagar College, both in its school and college departments, were inspired by their teachers. They joined all the reform movements of the time, such as widow re-marriage, breaking caste-rules, etc. In the matter of food, clothing and games, also novelties were introduced and the town earned the reputation of being "progressive."

The Christian missionaries found a congenial soil at Krishnagar for propagating Christianity and had begun their work in the early forties. The people were very much afraid that their sons would be converted. Again during the early sixties Brahmananda Keshub Chunder Sen visited the town. His lectures on Brahmoism, the highest form of Hindu religion, struck at the root of the missionary efforts. The educated community including the orthodox section, veered round Keshub and supported him in the controversy between him and the Rev. Dyson. The Brahmo Somaj, led by Keshub, exerted a beneficent influence over the people of Krishnagar as in fact it did everywhere at the time. When, in 1864, Pramatha Nath went to Krishnagar, the proselytising activities of the Christian missionaries had almost died down, and there was hardly any fresh recruit to Christianity from the educated middle class. Nevertheless, the progressive ideas of the reformists reigned supreme in young minds and Pramatha Nath writes :

“Coming from a remote village, I found that my school fellows had begun to march along the path of Western Civilization and my grandfather under whose guardianship I lived decided that I should follow the prevailing fashion. At home, a dhuti alone still sufficed. But going out (except when going anointed to the river to bathe) I had to put on shirt and shoes. I had to gradually give up the primitive Ha-du-dudu and take to the more civilised game of cricket, a set of which our College got every year from the Education Department. Then again I imbibed a taste for food tabooed by orthodox Hindu society.... Along with some of my fellow students, I developed a taste for the forbidden biped, and occasionally gratified it at the house of a Mahomedan friend.”

Pramatha Nath writes that his grandfather, an orthodox Hindu, must have heard about his heterodox practices and latitudinarian views about Hinduism. But he never took him to task about them. Pramatha Nath used to visit his village home during long vacations. It was during one of these that he saw Keshub Chunder for the first time and heard him speak. This first impression of Kesub who subsequently wielded so much influence on his life, is given by Pramatha Nath :

“I had the pleasure of seeing and hearing Keshub Chunder Sen during one of my holiday trips to my native village, when he came to Khantura about two miles off, and stayed at the house of Khetra Nath Dutta, a devout Brahmo. Tall and handsome his was a grand personality and his lectures were as impressive as they were eloquent. I became one of his ardent followers. He was accompanied by Trailokya Nath Sanyal who was a musical genius and had a very sweet voice. On my return to Krishnagar I attended the Brahmo Samaj there, the services of which were conduc-

ted by Nagendra Nath Chatterjee, author of the life of Rammohun Roy and various other works. He was then a teacher at a local school, but, in later years, became a Brahmo missionary.”

As a meritorious boy of the College (in its school department) Pramatha Nath earned praise and affection from his teachers. He could have appeared at the Entrance Examination in due course in 1870. But he was only fifteen then, one year short of the minimum age, required to sit for the examination. He had to wait for another year. He spent the time in reading for pleasure, amateur theatricals and such other things. He also got time to indulge in his favourite pastime of writing poetry and completed a book of poems in Bengali. The booklet, containing only six poems, shows the trend of Pramatha Nath's imaginative mind, when he was only in his teens. In one of his poems he expresses his feelings of joy at Keshub Chunder Sen's visit to England, as he was confident that his hero would bring glory to his country by his mission to the West. Another piece, depicting the woes and sorrows of the Bengali widow, reveals the soft heart of the young poet. In order to get the book printed he went to Calcutta. It was published in 1871, under the caption 'अबकाश कुसुम' and was favourably reviewed in *The Indian Mirror*.\* But too many diversions hampered Pramatha Nath's studies and he writes :

“The consequence of all these vagaries was that the approach of the time of examination found me ill-prepared for it, and as behoves a votary of the exacting Goddess of Fame, I began to study very hard,

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\* The book was printed at the New Indian Press, 67 Colootola Street, Calcutta, and the date of issue was 10th May 1871. It was small in size, bearing 34 pages.



the result of which was a severe type of fever just before the examination. However, I got well enough to repair to the examination hall in a palanquin. A special seat was arranged for me there, and the Principal on his own responsibility kindly offered to give me extra time which, however, I did not want."

Pramatha Nath came out successful in the examination, standing second in order of merit amongst the passed candidates of the Calcutta University. His grandfather Nabakrishna Bose died soon afterwards.

### COLLEGE

*Krishnagar College—Admission into the First Year (F. A.)—The idea of going abroad—Study of Natural Science—Principal Lobb and Professor Sen—Success in the First Arts Examination—Third Year in the St. Xavier's College—First in the Gilchrist Scholarship Examination—Preparation for sojourn in England.*

Since its foundation, Krishnagar College had become one of the best educational institutions in the province of Bengal. Its work was expanded in the sixties. The Law classes were opened in 1865 and students appeared from this College for the first time in M. A. in 1870. The Surveying Department was added to the College in 1872. Chemistry was introduced as a compulsory subject in First Arts in 1873 under the new regulations of the Calcutta University. Samuel Lobb, a Cambridge man and a positivist of note, was Principal of the College in 1870-74. Ambika Charan Sen, a reputed scholar, joined the College as Professor of Chemistry.

Pramatha Nath Bose got himself admitted to the College Department of the institution in 1872

as a student of the First Year Arts. By dint of his merit and genial temperament he had already attracted the notice of the College authorities. Early in 1873 when Pramatha Nath was in the second year class, he conceived the idea of going to England. His father favoured the idea but had not the means to carry it out. There was the Gilchrist Scholarship instituted in 1867-68 for the meritorious Indian students who would go abroad for higher studies. The first competitive examination for the Scholarship was held in January 1869 simultaneously in Calcutta, Madras and Bombay. This procedure was followed annually. Two scholarships were given every year. Each scholarship was worth £100 a year and tenable for five years. Travelling allowances of £100 to and from London were granted to each scholar.\*

Pramatha Nath decided to appear at the Gilchrist Scholarship Examination early in 1874. There were two subjects of the Examination which were altogether new to him—Natural Science and Latin. Time was opportune for Pramatha Nath. He took lessons in Natural Science from Professor Sen, not only in the class-room, but also at his house. The Principal of the College helped him with his Latin. Pramatha Nath had happy recollections of these two teachers even in his old age. About Ambika Charan Sen, he writes: "He was an admirable teacher and one of the few men I have come across who lived the religion they believed." Pramatha Nath was also full of admiration and regard for his Principal.

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\* Rules for the Gilchrist Scholarship were published in the *General Report on Public Instruction in Bengal for 1867-68, Appendix B, pp. 8-11.*

According to him, "Lobb was another man who lived his religion which was that of humanity preached by Comte who made religion and duty identical as Hinduism does. He was a humanitarian, and used to take keen interest in his pupils."

Pramatha Nath appeared at the First Arts Examination in December, 1873, and stood fifth in order of merit amongst the successful candidates of the Calcutta University. In spite of the expansion of the College the examination results of the pupils were not satisfactory for some years but as the *History and Register of the Krishnagar College* (1950) puts it, "The only bright spot in this poor record of the College was in 1874 when Srijut Pramatha Nath Bose, the well-known scientist of later years, occupied the fifth place in order of merit in the F.A. Examination." (p. 14.) Principal Lobb also made the following appreciative remarks in his *Annual Report* of the College, 1873-74 :

"In one respect we were fortunate at the last examination, inasmuch as we had one of the best students of the year. He stood fifth in the first division, and was in hopes that he would have stood still higher, as in the whole course of my experience I have never met with a student who wrote better English."\*

Krishnagar College suffered a set-back during 1873-74. Sir John Campbell, the Lieutenant-Governor of Bengal, was a man of strong likes and dislikes. It was due to his efforts that the study of Natural Science was included in the curriculum of the collegiate education. But he was responsible for checking higher education in Bengal on the plea of pro-

\* Quoted in *General Report on Public Instruction in Bengal for 1873-74*, p. 53.

viding money for the primary education of the masses. Calcutta Sanskrit College, Berhampore College and Krishnagar College were reduced to second-grade colleges in spite of almost universal protest of the educated public in 1874. Pramatha Nath was, therefore, compelled to migrate to Calcutta to continue his collegiate studies. He joined the Third Year of the St. Xavier's College as he wanted to learn French from one of the Fathers there and live within the Scholarship of Rs. 25/- which he got at the F. A.

In January 1874 Pramatha Nath sat for the Gilchrist Scholarship Examination and when the results came out in May it was found that he had stood first in the Examination. The Scholarship was tenable for five years. Pramatha Nath began to prepare for his sojourn in England. He writes :

“I spent the next three months visiting friends and relations at Krishnagar and elsewhere and lived a good portion of the time under the hospitable roof of the eminent Barrister Monomohun Ghose chiefly with a view to prepare myself for the prospective life in England and the voyage thither and I could not go to a better school for such training. Thus prepared I sailed for England in September, 1874.”

## CHAPTER IV

### SOJOURN IN ENGLAND

*Object of the Sojourn—B. Sc. student of the London University—Royal School of Mines—Appreciative Testimonials from Professors of Science—Applicant for a Post to the Secretary of State for India—Secretary to the India Society, London—Appointment in the Geological Survey of India from England.*

Study of higher branches of Natural Science and industrial regeneration of the country through scientific education were the two main objects which had actuated Pramatha Nath to make a sojourn in England with the Gilchrist Scholarship. Only a few students had preceded him. He has mentioned elsewhere the names of Dr. P. K. Ray and Mr. H. M. Percival as the two recipients of the Scholarship. The social prejudice about going to England had diminished, counter-balanced probably by a consideration of material advantages which accrued from it. About his going to England for higher scientific studies, Pramatha Nath has written afterwards: "My enthusiasm for modern culture was so great that in the seventies of the last century I was so far as I recollect, one of the first batch of two Indians in England who chose Natural Science for their course of study."\*

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\* *National Education and Modern Progress*, p. 52.

Pramatha Nath was in England from October 1874 to May 1880. The term of the Scholarship was for five years, and it was to expire in October 1879. Pramatha Nath had to pass the Entrance Examination there before enrolling himself as a full-fledged student of the University. Natural Science was his favourite subject. He began to study for the B. Sc. course, the curriculum of which included Chemistry, Botany, Geology, Zoology, Physical Geography, Logic and Mental Philosophy. An intelligent and industrious student, Pramatha Nath made rapid progress in his studies. He stood first in Botany and fourth in Zoology at the joint examination of the first B. Sc. and the 'pure Science branch' of the first M. B. in 1877. The final B. Sc. examination came off the year following. This time, too, he fared very creditably, standing second in Botany and third in Geology and Physical Geography. Professors bore eloquent testimony to his merit, industry and extraordinary aptitude for scientific enquiry.

After his graduation from the London University Pramatha Nath entered the Royal School of Mines for further studies. This school has been later known as "Royal College of Science." He attended the lectures on Biology by the eminent scientist Prof. Julian Huxley. According to Pramatha Nath, "He was a most fascinating lecturer. His discourses even on such a comparatively dry subject held us spell-bound." Pramatha Nath did very well in examinations, at the Royal School of Mines obtaining the highest number of marks in the annual examination in Biology and Palæontology. He won the Edward Forbes' Medal and Prize, but could not get them for technical reasons. F. W. Rudler, Registrar

of the Royal School of Mines, mentioned this fact in his certificate to Pramatha Nath. The certificate dated 25th July runs as follows :

“This is to certify that Mr. P. N. Bose having passed in the first class in the examination in **Biology**, and having obtained the greatest number of marks in that examination and in the examination in **Palaeontology** for this year, would have been entitled to the Edward Forbes’ Medal and Prize if he had previously been examined, and had passed in the subjects which are prescribed in the course of study for candidates for the Associateship of the Royal School of Mines during the first two years of the curriculum.”

The Professors of the London University College and the Royal School of Mines also spoke highly of Pramatha Nath’s industry and efficiency in scientific studies. T. G. Bonny, F. R. S., F. G. S., Professor of Geology, University College, London, wrote on 30th June, 1879 :

“Mr. P. N. Bose attended a course of my lectures at University College and obtained the Prize in Geology at the examination. He was a remarkably attentive and diligent student and made very good progress.”

John W. Judd, Professor of Geology in the Royal School of Mines, London, certified to his achievements in the following lines :

“I have great pleasure in testifying to the zeal and industry displayed by Mr. P. N. Bose while engaged in Geological study in the Laboratory in this place. In the final examination he attained so high a position that if he had entered as a matriculated student of the school of mines, he would undoubtedly have had awarded to him the Murchison medal for the year.”  
(14th July 1879.)

Pramatha Nath now applied to the Secretary of State for India for appointment to a suitable post in the Government of India. The Secretary then had two services under his patronage—the Indian Educational Service and the Geological Survey of India, for the latter of which Pramatha Nath was most fitted.

No response was, however, forthcoming from the Secretary of State for India, and so Pramatha Nath made up his mind to settle in England. Because there was no opening for a man of his attainments in India except in Government service. Early in 1880 Pramatha Nath offered himself as a candidate for the Lecturership in Botany in the London Hospital. Dr. Oliver, Keeper of the Kew Herbarium and Professor of Botany at University College, London, testified to his attainments in Botany, in high terms. He wrote amongst other things :

“He (Mr. P. N. Bose) has been one of the most, if not the most, diligent students of Botany, it has been my fortune to remember amongst my students at University College for some years and I am happy to find his success at the London University further warrants me in regarding him as well-suited for a lecturership in Botany.” (19th February, 1880.)

Since October 1879, after the expiry of the term of the Gilchrist Scholarship, Pramatha Nath had to depend solely on his own income for a living. He says that he began to work in establishments for coaching boys for the Civil Service and other examinations. Pramatha Nath has written elsewhere\* in

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\* *National Education and Modern Progress*,—Pramatha Nath Bose, (1921), p. 49.



a different context that Rabindra Nath Tagore was his pupil for a time. This must have been in London between late in 1879 or early in 1880, since it was during this period that Tagore was studying in the London University where his friend, Loken Palit, son of Sir Tarak Nath Palit, was also a student. Palit later joined the Indian Civil Service.

Pramatha Nath lectured on Indian subjects for which fees were charged. One of his lectures was delivered at the Bristol Museum and Library in March, 1880. This was on "The Caste System in India; its Origin and History." This lecture was published in Pramatha Nath's book *Essays and Lectures* long afterwards in 1906.

During the latter part of his sojourn, Pramatha Nath did considerable research work on Indian subjects, besides pursuing his scientific studies in the British Museum. He has written as follows :

"I may here note in passing that my leisure had been largely devoted to Indian studies, and that I submitted to the Oriental Congress in 1877 an essay on Indo-Aryan civilization which earned the second prize offered by the Italian Government. My vanity (of which I had always an inordinate share) was gratified by being introduced to the great scientific luminaries. I made researches at the British Museum, the result of which was embodied in a paper read at the Geological Society and published in their Quarterly Journal. I also contributed to the Geological Magazine."

The papers alluded to by Pramatha Nath were : "Undescribed Fossil Carnivora from the Sivallic Hills in the collection of the British Museum (with one plate)"—The *Quarterly Journal* of the Geological Society of London, February 1880, and (2) "Notes

on the History and Comparative Anatomy of the Extinct Carnivora"—*Geological Magazine*, Vol. VII, 1880. Pramatha Nath has noted in his *Preface* to the first volume of *A History of Hindu Civilization during British Rule*, that the idea of writing the *History* first occurred to him when he submitted the Essay on "Indo-Aryan Civilization" in 1877. He completed the book in three volumes and got them published between 1894 and 1896. It goes without saying that his studies and researches in the British Museum stood him in good stead in after-life when he seriously applied himself to writing books on Hindu civilization and culture. His writings show at once the profundity of a scholar and the accuracy of a scientist.

Pramatha Nath played the role of a public man late in 1879 and early in 1880. As Secretary to the India Society, he worked hard for some time for the cause of our Motherland. The India Society was a socio-political body of some years' standing. Eminent Indians like Dadabhai Naoroji, W. C. Bonnerjea and Ananda Mohan Bose were associated with the Society and worked for the Indian cause while in England. Towards the end of the seventies, Indian interests suffered at the hands of the British authorities. The doors of the Civil Service were almost shut against Indians. Lal Mohan Ghose, later President of the Indian National Congress, was deputed to England in 1879 as a special delegate of the Indian Association of Calcutta to place the Indian view-point personally on questions affecting India, with special reference to the Indian Civil Service. The Indian cause had a few warm advocates and supporters in England, of whom John

Bright, the Liberal Member of the House of Commons, was the most prominent. As Secretary of the India Society, Pramatha Nath helped the organisers to hold a meeting on 23rd July in the Willis' Rooms, House of Commons, where Lal Mohan Ghose spoke on the Indian question for the first time. John Bright was the President of this meeting. Pramatha Nath has later narrated the event from his personal experience :

“During this period the outstanding event of political significance was Lal Mohan Ghose's speech in Willis' Rooms. The fact that John Bright presided at it and championed the cause of India went a long way towards drawing the attention of the British public to it. There was a talk at one time of his appointment as Secretary of State for India. . . . Lal Mohan Ghose's Willis' Rooms speech established his reputation as a great orator. The success of his oration was due to his wonderful memory. They were works of art carefully prepared beforehand. On the day of the Willis' Rooms meeting I went to his place in order that we might go to it together. He asked me to be his audience and delivered his speech by way of rehearsal. He had committed to memory so well that he reproduced it at the meeting word for word and with such easy and graceful eloquence that there was nothing to show that it was not extempore.”

Pramatha Nath used to take part in political meetings and address them, criticizing the actions of the Government. He would have preferred to stay in England and carry on political work for his Motherland, along with his own work. But this was not liked by the high officials of the India Office. They at last sought to get rid of him by giving him the job for which he was an applicant. Pramatha Nath says :



The Gaipur House.



Pramatha Nath Bose in 1880.



“Nearly six months passed in this way when the Secretary of State for India found that I was determined not to come away unless he gave me an appointment. What, I think, was especially obnoxious to him, was the freedom with which I criticised Government when speaking on Indian subjects. So whether it was to get rid of me as a source of possible nuisance or to do me justice,—there were strong recommendations from all my Professors—he at last decided to appoint me, about the end of April 1880, and I was summoned to the India Office. The suggestion at first was that I should be appointed to the Indian Educational Service. In entering it, however, I wanted to make it a condition that I would be required to teach only the subjects in which I have specialised—Geology, Zoology and Botany, for if I were asked to teach any other subject it would not be agreeable to me or advantageous to the students. As, however, there were then no chairs in these subjects in India and none were in contemplation, I was appointed to the Geological Survey of India. This was the first case in which the Secretary of State exercised his discretion in favour of an Indian in regard to the appointments in his patronage.”

Thus after six years' sojourn in England, Pramatha Nath returned to India full of honours, and with an appointment in the higher cadre of Government service.

## CHAPTER V

### NEW LIFE AND NEW EXPERIENCES

*Return Home—In the midst of his Relations—Social Difficulties—Visit to the House of Romesh Chunder Dutt—Kamala Dutt—Pramatha Nath's Engagement with Kamala—The Marriage Ceremony—Dutt's Letters.*

Pramatha Nath, whilst in England, joined the Geological Survey, Government of India, on May 13, 1880. He had lived in England for about six years, had observed men and things there and understood the secret of their rapid success. He realised that the industrial regeneration of his own Motherland would only be possible through scientific methods and that his countrymen must take to education in Natural Science. Imbued with this belief Pramatha Nath came back home a true nationalist on July 30, 1880, and tried his best by precept and example to educate his countrymen on the real needs of his country.

Meanwhile, the question of taking him back in the orthodox community became a serious matter for the people at Gaipur and the neighbouring villages. His father Taraprasanna asked the leaders of the Kushadaha Somaj to withdraw the social ban on Pramatha Nath. It is to be noted that even

in the eighties of the last century crossing the seas was considered a heterodox act by the Hindu community. Two of the prominent leaders of the Kushadaha Somaj, Rai Giriya Prasanna Mukherjee Bahadur of Gobardanga Zemindar family, and Sura Nath Chaudhuri, the Zemindar of Ichhapur, were ready to take Pramatha Nath back provided he performed *Prayaschitta* or penance. But Pramatha Nath considered it wrong to accept this proposal, because going abroad for the purpose of studies could not be treated as a sin to be rectified by penance. Though out-casted at home Pramatha Nath was received cordially by the educated community all over the country.

Pramatha Nath's acquaintance with Abinas Chandra Dutt, younger brother of Romesh Chunder Dutt, while in England, had ripened into friendship. After his return home, he once invited Pramatha Nath to tea at the house of Romesh Chunder Dutt, 20 Beadon Street, Calcutta, in early 1881. B. L. Gupta, I.C.S., the close associate and intimate friend of Romesh Chunder Dutt, was present on the occasion. Here it was that Kamala, Romesh Chunder Dutt's daughter, saw Pramatha Nath for the first time. It was also for the first time here that she had come before a stranger. At the time there was no question of a marriage between Pramatha Nath and Kamala.

Kamala, the eldest daughter of Romesh Chunder Dutt, was born on June 1, 1866. She was only two years when her father sailed for England in March, 1868, to compete for the Indian Civil Service. At the same time as Romesh Chunder, B. L. Gupta



and Surendra Nath Banerjea also sailed for England. Romesh Chunder's wife and two daughters Kamala and Bimala, were left in the charge of his eldest brother Jogesh Chunder Dutt. Kamala has given us some idea of their life at Rambagan, Calcutta, during the absence of her father in her autobiography.\*

Romesh Chunder Dutt returned home a full-fledged Civilian Officer. He had to go from place to place on service. His wife and children often accompanied him. Romesh Chunder himself looked after the preliminary instruction of his children. Kamala tells us however that her education really began when, at the age of ten, she, along with her younger sister, was admitted into Miss Pigot's School on Upper Circular Road as a boarder. Miss Pigot also opened family quarters for the wife and children of the England-returned persons. It was here that Kamala made the acquaintance of Mrs. B. L. Gupta who lived there with her son and daughter. Maharani Sunity Devi of Cooch-Bihar, the eldest daughter of Keshub Chunder Sen, and her younger sister were day-scholars of the school. Keshub Chunder brought them both to the school at 11 A. M. and took them back home at 4 P. M. everyday. Kamala and Sunity Devi took lessons from the same teacher. Kamala's acquaintances with Sunity Devi at Miss Pigot's School turned into a life-long friendship. Their affection for each other manifested itself in various matters

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\* स्वर्गीया साध्वी कमला देवीर आत्मजीवनी (स्वर्गीया साध्वी कमला देवीर आत्मजीवनी)

in after-life. They often remembered with pride and joy their pleasant days of school-life.

From the Boarding School Kamala came to stay with her parents at their newly built house, 20 Beadon Street, in 1877. The School house of Miss Pigot was purchased by Keshub Chunder Sen in 1878 and named "Lilly Cottage." The Victoria Institution for girls, first conceived by Keshub, and later turned into a first-grade College for women now occupies this historic plot of land.

Miss Pigot's School was shifted to a big house in Bowbazar, where Kamala and her sisters got admitted. Girls were instructed in this school up to the Entrance standard. The School sat at 11 A. M. and closed at 4 P. M. During these hours Kamala was taught English, sewing, piano, singing and recitation. Here also she made new friends. Alokeshi, daughter of the Rev. Kali Churn Banerji and Priyatama, his adopted daughter, were two of her great friends. Kamala read in the school up to the middle of June, 1882. She was then in her sixteenth year. At home Kamala took her lessons in English poetry from her father. She herself read Scott's novels, such as *Ivanhoe*, *Talisman*, *Kenilworth* and a few others.

After his first introduction to the family of R. C. Dutt Pramatha Nath occasionally visited the house during his stay in Calcutta. He soon became intimate with the members of the Dutt family and proposed for the hand of Kama'a whose accomplishments and gentleness had attracted him towards her. Kamala tells us that one day in July 1881 her paternal aunt told her that Pramatha Nath

had proposed to marry her. Kamala gave her consent. Pramatha Nath sealed the engagement with a diamond-ring. He visited Romesh Dutt's house every Sunday in August and September, 1881. In October Pramatha Nath went to the mofussil for Geological survey-work.

The period of engagement between Pramatha Nath and Kamala lasted for one year, from July, 1881 to July, 1882. Letters were exchanged between them of which six letters of Pramatha Nath have been published in Kamala's autobiography. These letters show that Pramatha Nath was deeply attached to Kamala. Both Pramatha Nath and Kamala composed poems which were exchanged in letters. Pramatha Nath appears to have taken deep interest in his fiancée's education. His joy knew no bounds when he learnt that Kamala and her sister Bimala had become regular students of Miss Pigot's School at Bowbazar. To be thoroughly accomplished, Pramatha Nath wanted Kamala to continue the practice of singing and playing on the Piano. We know from one of the letters that Kamala was also learning Sanskrit, and this was greatly appreciated by Pramatha Nath.

Pramatha Nath had to spend six months of the official year from October, 1881 to March, 1882 in the mofussil and the following six months, April-September, 1882 in Calcutta. The offices of the Geological Survey were located in the India Museum where Pramatha Nath had to prepare reports on the findings in the course of the Geological Survey. In April, 1882 Pramatha Nath returned to Calcutta and visited the family residence of R. C. Dutt. The

marriage ceremony of Pramatha Nath and Kamala was arranged for July 24, 1882, and took place at 20 Beadon Street, the family residence of Romesh Chunder.

The marriage ceremony of Pramatha and Kamala was eventful for more reasons than one. Pramatha Nath was not accepted by the Kushadaha Somaj for his refusal to perform a penance (*Prayaschit*) proposed by the local leaders. At that time he did not hesitate to follow the dictates of his conscience and leave the Somaj. On this occasion, too, he exhibited the same strong sense of individuality. Everybody believed that the marriage would be effected according to the Act III of 1872 (Civil Marriage). But according to this Act the parties have to declare that they belong to no existing religion—Hindu, Moslem, Christian or any other religion. Pramatha Nath had conscientious objection to that clause. The marriage ceremony was, therefore, performed according to strict Hindu rites, with the help of Pramatha Nath's family priest. Kamala writes that Rai Bahadur Soshee Chunder Dutt, the eldest uncle of her father, gave her in marriage.

Friends and relations of Romesh Chunder Dutt graced the occasion with their presence, this being the first public ceremony in his family. Kamala mentions that Mr. and Mrs. B. L. Gupta, and Mr. and Mrs. Surendra Nath Banerjea were amongst those present. Poet Rabindra Nath Tagore has immortalised the occasion in his *Jibansmriti* ("Reminiscences from life").\* Himself a litterateur of repute, Romesh Chunder naturally invited his

literary friends. Most prominent of these was undoubtedly the novelist Bankim Chandra Chatterjee, the great *Rishi* of 'Bande Mataram.' Among the younger literary invitees was Poet Rabindra Nath. He was then barely twenty-one, but already a famous poet. His *Sandhya-Sangit* had been recently published and Bankim Chandra recognised in Rabindra-nath a poet of great promise. When young Rabindra Nath reached the house of R. C. Dutt, he found Romesh Chunder standing at the gate and ready to garland Bankim Chandra. The latter took the garland from Dutt's hand as it were, and placed it round the neck of Rabindra Nath, saying "Romesh, have you read *Sandhya-Sangit*?" When Romesh said 'No', Bankim Chandra, while asking him to read it, referred to the main trends of some of the pieces. This greatly encouraged and inspired the young poet.

The newly married couple, Pramatha and Kamala, lived together for about two months in a separate house at Calcutta. Romesh Chunder left Calcutta for Balasore immediately after Kamala's marriage, but all anxiety about his newly married daughter disappeared when he heard of her happiness from his relations in Calcutta. Extremely pleased he wrote to Kamala from Balasore on August 11, 1882, just nineteen days after her marriage with Pramatha Nath.

"My dearest Kamala,—I cannot tell you how happy I feel to receive your loving letter. I have been longing to hear from you since some days past, and would have written to you if I had known your new address. Last Tuesday I wrote to your mother asking her to let



**Romesh Chunder Dutt**



me know your address, but I have not heard from her yet in reply.

Yes, I learnt from your mother and from Mr. Gupta that you were doing very well in your new home, that you were liked by all of your husband's family, that you had put your house into order, and that you had asked Bimala and the rest of them to see your new house. Every account that I received of you filled me with pleasure. You have always been a good and sensible girl, and I always expected you would make an exemplary wife and a good housewife. That you may be happy in your new home and in the new sphere of your life, and that you may long live to enjoy that happiness is the dearest wish of your ever loving father.

Your Jathamohasoy sends you his love and his wishes for your happiness from Darjeeling. You should write to him if you have not done so already. Yes, Balasore is a nice station ; I am learning Uriya here, so when we meet again I will surprise you all with my new learning ! My affectionate regards for your husband.

Your ever loving father

"Romesch Dutt".\*

Romesch Chunder again wrote to his eldest brother Jogesh Chunder Dutt about Kamala's new home and environments. He inserted an English version of the letter from their sister Chamatkar in which she had spoken highly of Kamala. It runs thus: "I cannot tell you what pleasure it has given me to see Kamala. You have rightly called her Kamala (Goddess of wisdom). It is impossible to describe her thoughtfulness and good sense. She knows by

\* *Life and Work of Romesh Chunder Dutt, C.I.E.*



instinct in what esteem to hold the different relations of her husband, and how to behave towards each one of them. It is a pity you have had no opportunity of seeing her after her marriage. The thought comes naturally to me that a girl of Kamala's pure character ought to be happy through life. She is indeed an ideal of what a daughter should be."\*

Romesh Chunder added in the same letter : "I have really forgotten what tender emotions are but I could hardly read the above without an outburst of emotion and love for my dearest child."

## CHAPTER VI

### SERVICES IN THE GEOLOGICAL SURVEY OF INDIA

#### 1. PRELIMINARY

*Study of Geology in India—Institution of the Geological Survey—The Department in 1880—Bose in the Service—Nature of Work—History of the Services (Part 1).*

In order to appreciate Pramatha Nath Bose's work in the Geological Survey of India, one should have an idea of the studies in Geology in this country in the early nineteenth century. Officers of the Company, including military personnel, doctors and engineers, collected materials on subjects ranging from History to Natural Science. Some of them prepared essays and papers on their findings and read them before the Asiatic Society of Bengal, Calcutta, in order to elicit discussion and further elucidation. For a long time the Society supplied the only meeting-ground for scholars and officers who conducted researches and their discourses were published in the *Asiatic Researches*, and later on in the *Asiatic Journal*, which was the Society's journal. Numerous discourses

on Geology accompanied with maps and plates, found their place in these *Researches* and *Journal*, and sometimes in the Society's *Transactions* also.

Dr. H. W. Voysey is regarded as the father of Indian Geology. In 1818 he was attached as Surgeon and Geologist to the Surveying Party of Colonel Lambton of the Great Trigonometrical Survey of India. Dr. Voysey made important contributions to the geology of Central and Southern India. He was the first pioneer to make geological maps of the Hyderabad region in 1820. Captain P. Dangerfield and Captain J. D. Herbert also made important contributions to Geology. Amongst the other notable Geologists of early nineteenth century may be mentioned Dr. P. M. Benza, Dr. T. G. Malcolmson, Captain J. T. Newbold, Captain J. Franklin, the Rev. R. Everest, Lt. J. Finnis, G. Spilsbury, Dr. J. Adam, Dr. J. McClelland, Captain W. S. Sherwill, and J. Homfrey. The Geological Survey of India also supplied eminent geologists in the latter half of the century.

The researches of these officers in their individual capacity probably induced the local authorities of the Company to institute a government department for the purpose. In 1837 they appointed a Committee for "The Investigation of Coal and Mineral Resources of India," with Dr. J. McClelland as Secretary. It was due to McClelland that in 1845 Mr. D. H. Williams was summoned from the British Geological Survey, 'for the purpose of making a geological survey of those districts in which coal-fields are situated.' Williams did some spade-work between the Raniganj Coal-field and the Kaimur

plateau. He died at Hazaribagh in 1848. Two years later McClelland resigned. The Company now set up a regular Geological Department early in 1851 and appointed the Geologist Thomas Oldham of European reputation as the first Superintendent of the Geological Survey of India on a contract basis of five years. The earlier idea of a coal and mineral survey was given up, and the wider and more concrete views of Oldham that the knowledge of the distribution of Geological formations and basis structures should be regarded as fundamental to any sound study of the mineral resources, guided the future policy of the Government.

During the first five years of Oldham's regime, little progress was made, except some casual survey-work in some parts of Eastern India. Oldham's services were renewed in 1856. With the favourable assistance of the Government of Lord Canning Oldham was able to organise a central office in Calcutta with a Library, a Laboratory and a Museum. The staff was increased and the first Annual Report, (1856-57) of the Geological Survey of India, and of the Museum of Geology was published in 1857. The Annual Report was later merged in Part I of the Records of the Geological Survey of India, published annually since 1868. In addition, the Memoires of the Geological Survey were inaugurated in 1856, containing reports on different districts in one uniform series, and the *Palacontologia Indica*, containing plates illustrative of fossil remains in India, in 1861. By 1860 Oldham was fortunate in having some noted colleagues and assistants of whom H. B. Medlicott and William King later became the Superin-

tendents of the Geological Survey. Since 1885 officers holding these posts were designated Directors. Though at first sceptical of the success of the Department. *The Friend of India* in its issue of December 1, 1859 was forced at last to admit in its editorial. "The Geological Survey of India may at last be said to be a fact."

Oldham was succeeded by Medlicott in 1876. Medlicott served the Geological Survey for eleven years (1876-1887). Then it was during his regime that several new officers were appointed. These included Carl Ludolph Griesbach (1878), Richard Dixon Oldham (1879), Pramatha Nath Bose (1880), Thomas Henry Digges La Touche (1881), Edward James Jones and Charles Stuart Middlemiss (1883), and Fritz Noetling, Palaeontologist (1887) Pramatha Nath was the first Indian to join the Geological Survey of India on a graded post.

During the time of Medlicott, besides Survey-work in different parts of the country, much improvement was effected in the departmental publications. From 1877 the size of the *Records* was almost doubled, without any fall in quality. Medlicott edited about ten volumes of *Memoirs*, and numerous parts of *Palaeontologia Indica*, were published during the tenure of his office. Another important publication of the period was *The Manual of the Geology of India*, in four Parts, Parts I and II giving a stratigraphical account, written by Medlicott jointly with W. T. Blanford, were published along with a geological map of India in 1879. Part III dealing with the 'Economic Geology of India' written by V. Ball, came out in 1881, and Part IV

on "Mineralogy" by F. R. Mallet, was published in 1887.\*

Pramatha Nath joined the Geological Survey of India as Assistant Superintendent, 3rd Grade and reached India to take up its work on 30th July, 1880. His contributions to the Geological literature between 1880 and 87 deserve special mention. He used to be engaged in field-survey during six months of every year, from October to March. In the other six months he stayed at the headquarters in Calcutta and wrote reports and papers on his findings in the course of his survey. Thus he wrote at least one paper for the *Memoirs*, Vol. XXI, Pt. 1, and three notes for the *Records*, 1880, 1883, and 1886. The paper for the *Memoirs* was: "Geology of the Lower Narbada valley (with a plate and three maps)." The *Records* included the following: (1) Undescribed fossil carnivora from the Siwalic Hills; (2) Notes on Lignite near Raipur, Central Provinces and (3) The Iron Industry in the western portion of the Raipur district.

Pramatha Nath was a gazetted officer. A complete account of his service in the Geological Survey of India is available in the *History of Services of Officers*, holding Gazetted appointments in the Home, Foreign, Revenue and Agricultural and Legislative Departments, Government of India (corrected to 1st July 1903). Here we find him in various graded posts till his retirement in 1903. He contributed one memoir and thirteen papers to the publications of the Geological Survey.

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\* \* This portion is compiled from *A Short History of the First Hundred Years of the Geological Survey of India (1851-1951.)*

## 2. WORK AND APPRECIATION

*Geological Survey Reorganised—Survey in the Central Provinces : Gosalpur, Balaghat and Vindhya—Continued next year—Darjeeling : Coal—Sikkim : Copper Occurrences—Lower Burma : Tennasserim Coal.*

The Geological Survey of India was reorganised in 1885 with effect from 15th August 1885, the designation of Superintendent for the head of the Geological Survey of India was changed into that of 'Director' and from the 10th September of the same year the terms 1st, 2nd and 3rd Grade Assistants were replaced by the terms 'Superintendent', 'Deputy Superintendent' and 'Assistant Superintendent' respectively. H. B. Medlicott retired on the 27th April, 1887 after 33 years of devoted service. William King succeeded him as Director and served the department until 20th July, 1894.

Pramatha Nath Bose, or P. N. Bose as he was popularly called, served under three Directors of the Geological Survey ranging over twenty-three years. Even in the early years of his service, Pramatha Nath did the field-survey creditably, and his masterly notes and papers won not only approbation, but also earned the praise of his superior officers. As a result he was promoted to Deputy Superintendent, Second Grade, in August, 1887. The results of his Geological findings had been published in the Records and Memoirs of the Department since 1881. In the Annual Reports from 1887 onwards, the respective Directors mentioned the acti-

vities of Mr. Bose appreciatively. These frequently referred to the useful innovations he introduced and the valuable discoveries he made in the course of his field-work. The Director referred to Bose's findings of the Manganese and Iron ores in the Central Province in the *Annual Report* of 1887 :

“I have just returned from an inspection of Mr. Bose's work as far as it has gone, he having brought features in the distribution and mode of occurrence of these ores to notice, which required testing in a more authoritative way than usual, owing to the ground having been previously visited by Messrs. Medicott and Mallet. I was greatly pleased to find that Mr. Bose was not only doing his work well and carefully, but that he had made observations and recognised features which will lead to a more qualified view of the manganese ore capabilities, as well as towards a further elucidation of the origin of that form of decayed or methylosed rocks, so well known as laterite.”

Pramatha Nath was entrusted with survey-work over a wide range of tracts in India and Burma, often singly and sometimes along with his other colleagues. His work in the Central Provinces continued up to the early part of 1889 and is mentioned in both the *Annual Reports* of 1888 and 1889. The Report for 1888 refers to the work of Pramatha Nath at Gosalpur and other places in Jubbulpur district. He was deputed to make a thorough re-examination of the ores there. According to the *Report*, “This was a close and intricate business involving the making of several shallow pits and cross-cut trenches and it occupied the whole of the working season, the result being two reports, the



first of which, having to do with the practical bearings of the question, appeared in the August part of the *Records*, while the second (not yet published) dealt with the theoretical aspect of these unusual occurrences among the Bijawar rock. Mr. Bose estimated the total quantity of pyrolusite (manganese ore) at Gosalpur at about 26,000 tons." The *Report* further noted that Pramatha Nath's survey added very materially to our knowledge of the region in the matter of details, for he had kept the problem regarding the origin of the pyrolusite well before him.

The *Annual Reports* of 1888 and 1889 also tell us of the renewed activities of Mr. Bose in Balaghat among the Transition and the Vindhyan rocks. In early 1889 Pramatha Nath was again busily working in the Bijawars and Vindhyan of Balaghat. The Balaghat Bijawars or Dharwars in Madras were conspicuous for their development of iron ores. Mr. Bose completed his survey from the north (*i. e.*, in the Salitekri hills of the Mandla and Bilaspur Districts) down to the Bengal Nagpur Railway line, thus bringing his geological boundaries within easily communicable reach. (*Annual Report* for 1889.) Of Pramatha Nath's achievements during the survey, we have also the following account in *A Short History of the First Hundred Years of Geological Survey* (p. 38) :

"Bose, in 1888 and 1889, mapped the Vindhyan and the metamorphic rocks in the Balaghat district in the Central Provinces (now called Madhya Pradesh). The latter were grouped under the name of Chilpi Ghat series and were at that time regarded as a part of the

Transition series or the Bijawars. It may be mentioned here that he was the first person to introduce into the Geological Survey of India the study of micro-sections as an aid to petrological work, and to give accounts of micro-sections in Progress Reports."

The Geological Survey engaged the services of Mr. Bose for the examination of the metalliferous indications in the northern part of the Darjeeling district. Later on, attention was focussed on the coal out-crops eastward of Teendaria. "With these latter" writes the *Annual Report* for 1889, "Mr. Bose has been so successful as to have found exposures of two thick seams, one of more than 20 feet, in the ravines to the southward of Kalimpong." Coal of both Tertiary and Gondwana age occurs along the foot of the hills; these thick seams belong to the Indian coal-measures. Pramatha Nath successfully carried out a series of excavations, as well as experiments in the field as to the coking powers of the excavated coal. The Director writes in the above *Report* :

"The region in which this coal occurs is an exceedingly difficult one to examine, being in the midst of dense jungle, which can be considered healthy for only a few months in the year. I am glad to record my appreciation of the very enthusiastic manner in which Mr. Bose is engaging in the exploration....."

A sum of Rs. 2,000 was sanctioned by the Bengal Government for the exploration, which was done with strictest economy. It was recorded in the *Annual Report* for 1890 that, "considering that Mr. Bose tested the ground by over a hundred shallow pits

and trenches, coked the coal in the field, and opened paths and clearings in the exceedingly close jungle of this overgrown tract at the foot of the hills at an expenditure well within that sanction, the whole exploration was managed with admirable economy."

The Darjeeling coal exploration was continued to the west of the Lisu-Ramthi area. The excavations in the lower Gondwana or Damuda area between Pankhabari and the Teesta disclosed no promising seams, and according to the advice of Mr. Bose further survey of the Darjeeling coal was given up. His presence in these regions was used for some further examination of the copper occurrences in Sikkim. Posted to this work, Pramatha Nath examined sixteen ore localities, nine of which had not been tried before. According to Mr. Bose, at least four of these mines at Tuk, Bhotang, Rath and Panchi, were the most promising in all Sikkim. Mr. Bose's report on the Darjeeling Coal and Exploration and on the Geology and Mineral Resources of Sikkim were published in the *Records*, Vol. XXIV, and attracted universal attention. It was further recorded in the *Annual Report* for 1891 that Pramatha Nath supplied useful notes to the Department on the elevation and disturbance of the Sikkim Himalayas, and on the igneous rocks of Darjeeling and Sikkim.

Pramatha Nath's services were next requisitioned in 1892 for Geological research in Lower Burma. This region was almost impassable, there being a few forest-paths only. The Survey could not make much headway, and Mr. Bose did what was possible and managed to make several *traverses* around

Maliwan, Bokpyu, Bahumi, Lenya, and on the Great Tenasserim river in the Mergui district, and again in the Tavoy district. The Survey was continued for almost two years, and in the *Annual Reports* for 1892 and 1893 handsome mention was made of his services along with those of Parbati Nath Dutt, a young entrant in the Survey. While engaged in the exploration of coal on the Great Tenasserim river, both Bose and Dutt had to devote a considerable portion of their time to working out the geology of that part of Tenasserim mainly because the mineral appeared to be of different quality in separate places. They both tested the Tendo-Kamapy in coal-fields on the river by carrying out a series of borings and pits. The *Report* for 1892 says in part :

“The old interest in this field was revived by Mr. Hughes during his exploration of the Tenasserim tin areas, a preliminary report having been published by him in the Records for 1892. Mr. Bose’s report confirms the estimate of Mr. Hughes as regards the presumable quantity of available coal under not difficult working, *viz.*, about a million tons ; and this is what may be called a safe estimate.”

The *Report* for 1893 refers to Pramatha Nath’s find of a series of true carboniferous fossils in one of the strangely picturesque and isolated ridges of limestone so frequently met with in Moulmein, Tavoy and Margui. Mr. Bose was also able to determine the much later (Tertiary) age of the series (Tendaw) containing the proper workable coal.

### 3. LAST YEAR'S OF HIS SERVICE

*Officiating Superintendent—Survey in Rewah—Furlough for two years—Survey in Mandla, Bastar State—Exploration in Khasia and Jaintia Hills Lecturer in Geology, Presidency College—Resigned, 1903—Contribution to the publications of the Geological Survey.*

Recognition of Pramatha Nath's services to the Survey had been long overdue. We, however, find him posted as Officiating Superintendent, Geological Survey of India, on 18th July, 1893. During the season 1893-94, Pramatha Nath surveyed a rather extensive area in Rewah and ground east of it, in all more than 2,000 square miles. Here he recognised the Gondwana and Vindhyan Transition.

A major change was effected in the personnel of the Survey in 1894. C. L. Grisbach, a colleague of Pramatha Nath and senior to him only by two years, was appointed Director of the Geological Survey of India on 20th July, 1894.

Pramatha Nath served as officiating Superintendent for almost two years. From 15th May, 1895 he took furlough for two years for domestic reasons. This period was utilised by him in writing and seeing through the Press his monumental work, *A History of Hindu Civilization Under British Rule*. He resumed his services on 15th May, 1897, as Deputy Superintendent, 2nd Grade, no promotion being given to him.

A large portion of the Central Provinces still remained unsurveyed. Pramatha Nath had been working in the Raipur district before he went on two years' furlough in 1895. After rejoining his

service, he was again sent to the Mandla district, north-west of the area already surveyed by him. Part of a gap in the Geological map of the Central Provinces comprising the greater part of the Bastar State was surveyed by Pramatha Nath (1899-1900).

Mr. Bose went to Assam and engaged in survey-work during the two sessions, 1900-01 and 1901-02. Khasia and Jaintia Hills were his main targets. Bose surveyed in 1900-01 an area comprising the country south-east of Shillong—the Shillong Jowai plateau. He discovered the seams of coal which he met two or three miles south of Jowai. The most important of his findings during this survey was a locality in the Khasimar valley where petroleum in small quantities oozed out of Tertiary sandstone.

Towards the close of the season 1901-1902, Pramatha Nath discovered some rolled fragments of coal in a stream about four miles west of Barapani, near Shillong. On resuming field-work late in 1902, he followed up this discovery and successfully traced the origin of the coal to some outcrops situated close to the head-waters of a stream known as the Um Rileng (*Annual Report* for 1902-3). The centenary volume of the Geological Survey records Mr. Bose's valuable work in Assam in the following lines :

“Between 1901 and 1903 P. N. Bose carried out extensive mapping in the Jaintia hills, Assam, from where he reported good quality coal seams at Wapung, Lenkensmit and Barapani, and rich deposits of fire-clay near Jowai.” (P. 47).

During the two sessions 1901-02 and 1902-03, Pramatha Nath was placed in entire charge of the

Geological Department of the Presidency College in addition to his official work. In this connection it might be stated that the study of Geology was organised in the Presidency College in 1892 with the help of the Geological Survey of India. The Survey had allowed one of its officers to work as part-time Professor of Geology at the Presidency College. Thomas Henry Holland was the first officer to be deputed for the work. He practically organised the department.

Bose's explorations in coal, copper, iron, manganese and petroleum areas in India and Burma proved important and opened avenues for fresh exploration. Of all his discoveries, the discovery of the Gurumahisini Iron ores in the Mayurbhanj State was of the greatest importance and led to the foundation of the world-renowned Tata Iron Works and this will be told in the following chapter. While in Government service Pramatha Nath contributed one Memoir and thirteen papers to the *Records* of the Geological Survey. The captions of these papers\* are given below year by year, along with the volumes in which they were published :

- 1881. Undescribed Fossil Carnivora from the Siwalik Hills in the collection of the British Museum. Record G.S.I., XIV, 263-267.
- 1884. Geology of the Lower Narbada Valley between Nimawar and Kawat. Mem. G.S.I., XXI, 1-72.
- 1884. Note on Lignite near Raipur, Central Provinces. Record G.S.I., XVII, 130-31.

\* Vide *A Bibliography of Indian Geology and Physical Geography*, by T.H.D. La Touche, M.A., F.G.S. (1917). Pp. 57-8

1887. The Iron Industry in the Western Portion of the District of Raipur. Rec. G.S.I., XX, 167-170.
1888. Notes on the Igneous Rocks of the Districts of Raipur and Balaghat, Central Provinces. Rec. G.S.I., XXI, 56-61.
1888. The Manganesc-Iron and Manganesc-Ores of Jabalpur. Rec. G.S.I., XXI, 71-89.
1888. Notes on some Mica-traps from Barakar and Raniganj. Rec. G.S.I., XXI, 163-165.
1889. The Manganiferous Iron and Manganese Ores of Jabalpur. Rec. G.S.I., XXII, 216-226.
1890. The Darjeeling Coal between the Lisu and the Ramthi Rivers, explored during season 1889-90. Rec. G.S.I., XXIII, 237-258.
1891. Extracts from the Journal of a trip to the Glaciers of the Kabru. Pandim, etc., Rec. G.S.I., XXIV, 46-68.
1891. Further Note on the Darjeeling Coal Exploration. Rec. G.S.I., XXIV, 212-21 .
1891. Notes on the Geology and Mineral Resources of Sikkim. Rec. G.S.I., XXVI, 217-230.
1893. Notes on Granite in the Districts of Tavoy and Mergui. Rec. G.S.I., XXVI, 102-103.
1893. Notes on the Geology of a part of the Tenasserim Valley with special reference to the Tendau Kamapying Coal-field. Rec. G.S.I., XXVI, 148-164.

While in service, Pramatha Nath prepared the Report on the Um-Rileng Coal-beds, Assam. The Report was published in the Rec. G.S.I. XXXI, pp. 35-7.



## CHAPTER VII

### A SCHOLAR AND A CONSTRUCTIVE NATIONAL THINKER

#### I

*Important Papers in Research Journals—Part III of the Centenary Volume of the Asiatic Society of Bengal—Articles in Bengali Magazines—Suggestion for the Establishment of an Academy for the Cultivation of Bengali Literature—Text-books on Scientific Subjects—Bose's Masterpiece in Three Volumes.*

Pramatha Nath's was a scholarly bent of mind. He gave sufficient proof of his scholarship in the preparation of the Papers and Memoirs for the Geological Survey, Government of India. But a man of his intellect could not remain satisfied with only writing for matters connected with Indian Survey. In his spare time Pramatha Nath studied other subjects. He was a serious student of history and archaeology and applied the scientific method to the study of these subjects. His papers \* in the *Journal* and *Proceedings* of the

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\* 1. Notes on the Earthen Pots found at the alluvium at Maheswara (Mahesar)—*Journal of the Asiatic Society of Bengal*, Vol. LI. Pt. 1. 1882.

2. Notes on Mahisamati or Maheswara (Mahesar) on the Narbada—*Proceedings*, for July and August, 1883.

3. Chhatrisgar ; Notes on its Tribes, Castes and Sects—*Journal*, Vol. LIX. Pt. 1, 1890.

Asiatic Society of Bengal greatly interested the students of Archaeology and Ethnology.

But the most important of his research-works in the early eighties was his compilation of Part III of the *Centenary Volume* (1784-1883) of the Asiatic Society of Bengal. The compilation shows that Pramatha Nath was not only a great geologist, but he had also acquired a sound knowledge in other branches of Natural Science. Part III of the *Centenary Volume* contains an estimate of the scientific researches conducted in India under the auspices of the Asiatic Society of Bengal during the hundred years. These subjects included Mathematical and Physical Science, Geography, Zoology, Botany, Geology, Ethnology and Chemistry. After a thorough enquiry into the researches on these varied subjects, Pramatha Nath compiled Part III of the above volume. He also took considerable pains in preparing a classified Index of the Scientific Papers, published in the Society's publications, such as *Asiatic Researches, Journal, Proceedings, etc.*, between 1784 and 1883. Young as he was, Pramatha Nath showed the skill of a consummate scholar. Parts I and II were compiled by such veteran scholars as Dr. Rajendra Lala Mitra, and Dr. A. F. Rudolf Hoernale respectively. Part III of the volume still stands as a monument to Pramatha Nath's scholarship and varied knowledge of the Sciences.

During this period of hard work Pramatha Nath also wrote for Bengali journals like *Nabajiban* and *Bharati*, on topics affecting our national life and culture. Even in the eighties Pramatha Nath

asked his countrymen to stop the economic drain and exploitation by foreigners, and develop the resources of the country by taking to modern scientific methods. Accurate knowledge of the Natural Science was imperative for the industrial progress of India. On this he harped constantly and in one article, Pramatha Nath emphasised the need of writing scientific books in Bengali, for the rapid diffusion of scientific knowledge amongst the masses. A man of a practical bent of mind, Pramatha Nath himself wrote illustrated primers. "প্রাকৃতিক ইতিহাস" (প্রাকৃতিক ইতিহাস। *Rudiments of Physical Geography*) appeared in 1884 and "শিশুপাঠ" (শিশুপাঠ। *Children's Reader*) in 1892. These books were welcomed in the Press as first-class Bengali productions for children. Bengali at that time was neglected due to the emphasis laid on English. Pramatha Nath pleaded for greater attention to the mother-tongue without which national regeneration was impossible. He appreciated the efforts of Sir Ashutosh Mukherjee to introduce Bengali in the graduate and post-graduate stages as early as 1891. Pramatha Nath proposed the establishment of an academy for the proper and sustained cultivation of Bengali language and literature.\* This body would appoint several sub-committees, such as History sub-committee and Science sub-committee. The main function of this body would be to compile Bengali text-books on different subjects of study. Pramatha Nath anticipated the establishment of the Bengal Academy of Literature at least by two years and

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\* বাঙ্গালা ভাষায় বিজ্ঞান শিক্ষা, Cf. বিবিধ প্রসঙ্গ, p. 44. ( বাংলা ভাষায় বিজ্ঞান শিক্ষা Cf. বিবিধ প্রসঙ্গ )

that of Bangiya Sahitya Parishat (in which the Academy was merged) by three years. It should be mentioned there that Romesh Chunder Dutt, I. C. S., father-in-law of Pramatha Nath, became the first President of the latter body, which was inaugurated on the 17th Baisakh, 1301 B. S.

But the greatest literary feat of Pramatha Nath was his masterly treatise on the Hindu civilization during the British rule, its caption being *A History of Hindu Civilization during British Rule*. It was published in three separate volumes between 1894 and 1896. The book was a fine accomplishment specially when we remember that it was prepared mostly in the midst of his official work and other pre-occupations. Pramatha Nath wrote this authoritative treatise with as much historical accuracy as was possible in those days. These three volumes were dedicated to three great personalities of the age, Vol. I to Prof. F. Max-Muller, Vol. II to Pandit Iswar Chandra Vidyasagar, and Vol. III to the Marquis of Ripon, the liberal ex-Viceroy of India of the previous decade. In the Preface to the first volume, Pramatha Nath writes :

“The idea of writing a History of Hindu Civilisation first occurred to me sixteen years ago, when I submitted to the Oriental Congress a short essay on Aryan Civilisation in India which earned a prize awarded by the Italian Government. The execution of the work, however, has had to be postponed from year to year for various reasons which it is needless to mention. Even now the work is published with considerable diffidence, as on many points the information which I have been able to collect is

meagre and unsatisfactory. I venture to hope, however, that the present publication will create interest in the subject, and thus lead eventually to a more exhaustive treatment of it."

The Preface shows Pramatha Nath's modesty for the book still remains an authoritative history of the period. Vol. I deals with "Religious Condition", Vol. II describes "Socio-Religious Condition and Industrial Condition." Our "Intellectual Condition" exclusively forms the subject-matter of discussion of the Third Volume. This master-work of Pramatha Nath contains a critical estimate of the impact of the West on our Eastern culture. It was followed by other treatises in English and Bengali. But in point of factual accuracy and historical perspective, no other work has properly been able to surpass this pioneering effort as yet.

## II

*The Historic Pamphlet.—Reform in Scientific Education Proposed.—A Central Technological Institute 1886.—Movement for Technical Education—Elaborate Scheme of Educational Reform in Bengal—Anticipates University College of Science and Technology—Proposed Reforms Partially Materialised.*

Pramatha Nath became convinced, while abroad, that education in Natural Science was essential for the industrial development of his Motherland, so he propagated his views in his Bengali articles. Later he writes: "My humble efforts for the industrial development of our country by indigenous

agency crystallised in 1886 in a pamphlet entitled *Technical and Scientific Education in Bengal*. This Pamphlet was published in October, 1886. It was historic for more reasons than one. No Indian had hitherto presented a comprehensive scheme of scientific and technical education. As Pramatha Nath had already earned fame as a scientist, his views carried considerable weight not only with the leaders of the nation, but also with the educational authorities who could not ignore the importance of the scheme.

In his Pamphlet Pramatha Nath advocated the study of elementary science in the Entrance Course. At the same time he asked the University to make sufficient arrangements for those who wanted to study science in the First Arts Course. He divided these students into three categories: (a) students for general science and its application to the Industries; (b) students for Engineering and (c) students for Medicine. In his pamphlet he also prescribed the subjects of study for each category of studies. The science subjects for the first two categories would be Mathematics, Physics, Chemistry, Biology and Drawing. As he had done for the F.A., Pramatha Nath also pleaded for the radical change in the mongrel course of the B.A. Science, then known as the B. A.—B Course. The subjects of study suggested by him were, I. Pure Mathematics, II. Mixed Mathematics, III. Experimental Physics, IV. Chemistry, V. Botany, VI. Zoology, VII. Physiology and VIII. Geology. According to Pramatha Nath, the science students should not be called upon to attend or pass in

the literature course. The above science subjects could be studied in two or more groups. A practical examination would be held in every subject that admitted of such an examination. Pramatha Nath further added that, 'Both at the first Science Examination and at the Degree Examination, candidates may take Honours in any subject prescribed for the Pass Examination.' He was emphatically of opinion that these reforms 'are urgently needed for the sake of a sound scientific education also.'\*

In this way a sound basis would be laid for Technical Education in what Pramatha Nath called the 'Science-Industries.' These included such industries as dyeing, tannery, sugar-refining, soap-making, glass-manufacturing, electro-engineering, mining and many other industries including the cotton Industries. In his pamphlet, Pramatha Nath proposed the establishment of a Science and Technological Institute which could impart in general outline :

"(1) Preliminary instruction in science to Medical, Engineering, and Science students.

(2) Advanced instruction in Natural Science to candidates either for the Science degree of the

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\*Pramatha Nath wrote two years later :

"What we want now, and what we are able to accomplish is such a reform of the present educational system that it may produce scientific specialists who may contribute to the rise of new manufactures or the renewal of old ones, and who, if they failed to do so, will at any rate have disseminated a knowledge of science, and then laid the foundation of industrial progress. They would not be cast adrift on the world, but would be able to earn their livelihood as lecturers, and in other ways now open, if they failed to secure proper industrial employment"— "Educational Reform in Bengal"—*The Calcutta Review* for January, 1888.

University corresponding to B. A. and M. A., or for some Science diploma to be given by the proposed Institution.

(3) Agricultural instruction.”

Pramatha Nath wrote that the affiliation of the Science and Technological Institute would be necessary for training candidates for the proposed alternative First Art and Degree examinations in Science. But, according to him, “the University need have no concern with the Technical Examinations. The Central Institute should undoubtedly have sufficient prestige to make its diplomas and certificates valued by the public. This Institute would be run by the Government at less cost as its venue would be the Presidency College and its professors of Natural Science would supply most of its instructive staff.” Being practical Pramatha Nath also dealt with how the passed technicians would be employed :

“The work of Government will practically cease with training up the men. The further work of starting factories, or of working mines should be undertaken by us. With a large variety of raw materials in abundance, and scientific men to properly utilise them, and with cheap labour, there are good many industries which with judicious management are bound to yield an adequate return. It will be the duty of the practical technologists to point out the openings for profitable investments, and capital even in such a poor country will be forthcoming. One or two successful enterprises will lead to others.”

Pramatha Nath's *Pamphlet* gave the signal for starting the movement of Technical education. Not long afterwards a very comprehensive



Memorandum on it was published by the Home Department of the Government of India. It formed the subject of a lecture of H. J. S. Cotton, I. C. S., (later president of the Indian National Congress), at the Bethune Society in Calcutta. This, too, furnished a theme for Sir William Hunter's Convocation speech. The urgent need of technical education was also pressed by him at the Town Hall meeting for the inauguration of the Jubilee Fund in 1887. The Indian National Congress, the Indian Association (Calcutta) and other political bodies took up the subject. It was widely discussed in the Press. There was a cry for technical education throughout the country. A handsome amount was voted by the Calcutta Municipality, and there was a talk that the Jubilee Fund was to be devoted to it.

But nothing tangible resulted. Pramatha Nath wrote a paper for *The Calcutta Review* for January, 1888 on "Educational Reform in Bengal," but this time more as a critic of the movement. He regretted that the country had not advanced one step forward since the publication of his scheme on Scientific and Technical Education in 1886. He held the view that any private agency could not run such an Institute and now presented a comprehensive scheme for the centralisation of higher scientific studies in Calcutta. He proposed the foundation of a Central Science College under Governmental auspices where higher Mathematics, Physics, Chemistry, Botany, Geology, Zoology, and Metallurgy would be taught by the professors of the Presidency College, the Calcutta Medical

College and the Shibpore Engineering College in addition to their college duties. Thus Pramatha Nath urged as far back as 1888 the formation of an Institute on the lines of the University College of Science and Technology, Calcutta. In this paper, too, Pramatha Nath advanced a plea for the pecuniary prospects of those receiving higher technical education.

It took at least twenty years for our countrymen to materialise Pramatha Nath's scheme. The University gradually remodelled its course of scientific studies on the lines advocated by Pramatha Nath, according to whom, "The first outward sign of the recognition by that body of the different branches of Natural Science as independent subjects of education was the institution of a science degree during the closing decade of the last century." But the B. Sc. course had to a great extent proved a failure as the curriculum of the First Examination in Arts remained much the same as previously. It was not until 1906 that the University thought it fit to institute an Intermediate Science Examination (corresponding to the First Examination in Arts) for the special benefit of the science students and thus remove a long-felt anomaly.

### III

*Industrial regeneration : The main problem.—The Industrial Conference—Pramatha Nath's Presidential Address—Industrial Association : Precise Objects—Activities of the Association under the Guidance of Pramatha Nath.*

The country had been reduced to extreme

poverty on account of the loss of her industries. Imports of finished goods increased greatly, involving serious drain of the country's wealth.\* Thus it was necessary that something should be done to prevent this heavy drain by immediately starting Indian enterprises. It was also obvious that the expansion of scientific and technical education would not do much good unless Indian enterprise could absorb the recipients of such education. India had to be persuaded to take to industrial enterprise on modern methods. Pramatha Nath suggested in his *Pamphlet* in 1886 that a "Society for the Development of Indian Industries" should be immediately formed. But the suggestion could not take shape till five years later.

How to make indigenous enterprise take part in it was the great problem which had to be solved. Pramatha Nath now took the lead in this matter. It was mainly through his efforts that an Industrial Conference was organised for the first time in Calcutta in 1891 to rouse our countrymen to the

\*"The principal loss which India suffers in having to procure so large a proportion of her manufactured goods from abroad arises from the cost of factory-labour in England and from freight across the sea. These charges represent a loss in the quantity of manufactured goods, which reaches the original Indian farmer in exchange for the raw produce. Another and serious item of loss is that large number of hereditary craftsmen have been thrown out of employment, and that the skilled workmanship of this class is now necessarily much less productively utilised in ordinary agriculture, which is in no need of such additional labour. We import cotton piecegoods, yarn, woollen cloth, manufactured leather, glass-ware, bar-iron, tin plate, cutlery, wire, sugar, paper, corrugated sheeting, and an endless list of other articles all of which are capable with proper knowledge and appliances of being manufactured locally." — *Technical Education for India*, by Francis J. E. Spring, Calcutta, 1887.

gravity of the situation and to give impetus to our national enterprises. Men of wealth, influence and education assembled in the Conference, over which Pramatha Nath presided. In his presidential address, Pramatha Nath referred to the miserable condition of the country for which industrial backwardness was primarily responsible, and suggested the following remedy :

“I have again to ask, what then is the remedy ? The only remedy that is likely of very wide application, that is likely to afford substantial relief to all classes of our people, is the development of our industries. It is industries alone that can relieve the distress of the mass of the people by lightening pressure upon land ; it is industries alone that can relieve the distress of our middle classes by affording them openings other than clerkships. The fact of so many of our educated friends having met at this conference, and the recent establishment of a glass factory and of a cotton mill on a somewhat large scale in Bengal, by indigenous enterprise, show that we who have hitherto formed a community chiefly composed of clerks, that we too have at last awakened to a proper sense of the gravity of our present situation.”\*

Just as he had done before, Pramatha Nath here too advanced a plea for making proper arrangements for the study of science and technology ; because the newest methods and processes must be adopted for the quick and sound development of our industries. He referred to some other handicaps, such as tariff, octroi duty as also to the larger

problem of free-trade. The movement started by the Industrial Conference found its echo on the Congress platform. Pandit Madan Mohan Malviya took a keen interest in this question and persuaded Congress to move in the matter even in the nineties.

The most important outcome of this Conference was the establishment of the Indian Industrial Association with these three main objects : (a) To adopt measures for the spread of technical education, (b) to collect information about India's products and manufactures ; and (c) to point out new openings for industrial enterprises and to facilitate their establishment. That the Association met a keenly felt want was proved by the fact that most of the notabilities of the time joined it, among whom there were some Europeans. The Lieutenant-Governor of Bengal, Sir Alexander Mackenzie, became its patron in 1897. Among its active workers were T. N. Mukherjee of the Economic Museum (now attached to the Indian Museum), and Rai Parbati Sankar Chaudhuri, the benevolent and public-spirited Zemindar of Teota, Dacca. The Association did very useful work for some years by having lectures delivered on industrial subjects and organising industrial exhibitions. The first exhibition held under the Association's auspices was in 1893. Since then the Association held an Industrial Exhibition annually down to 1900. At the fourth exhibition held in January 1897, there were as many as three hundred and eighty exhibitors of whom seventy-six got medals and as many received certificates. The importance of the work done

by the Association was recognised by the Indian National Congress. In 1901 the Congress decided to hold an Industrial Exhibition in connection with its sessions in Calcutta. As it was not deemed desirable to organise a rival Exhibition, this item was dropped altogether from the programme of the Association. Needless to add, Pramatha Nath was the guiding spirit of the Association and did strenuous work for its success.

The Industrial Conference of 1891 gave incentive to the industrial movement in Bengal. Seven or eight joint-stock concerns were started. Pramatha Nath wrote later that the time was not yet ripe for starting such enterprises, so out of these concerns only one or two had survived by 1906.

Pramatha Nath, with slender financial resources of his own, was himself responsible for working a coal-mine in Asansol in 1896. He had previously started a soap-factory in Calcutta, sometime in 1884, but the latter venture proved too premature to succeed. Pramatha Nath did immense constructive national work of a far-reaching character, even while he was in Government employment.

## CHAPTER VIII

### “STATE GEOLOGIST” TO MAYURBHANJ: DISCOVERY OF THE GURUMAHISANI IRON-ORE DEPOSITS

*Appointment—Discovery in the winter of 1903-04—Letter to Mr. J. N. Tata—Tata & Sons Co.'s Representatives in Maurbhanj—Bose's Tour with the Experts. His part in the Negotiations between the Mayurbhanj State and the Tatas—Credit of Bose's Discovery overlooked—Protest—Bose's Discovery Recognised on all hands—Services to the Tatas. Bust instituted at Jamshedpur—Bose's further Survey in Native States and other Places.*

The first decade of this century, especially the period between 1903 and 1908, was the most eventful in our national history. A wave of nationalism—an intense love for the Motherland—swept through the length and breadth of the country. Indian nationalism found spontaneous expression in *Swadeshi* enterprises, national education, and cultural and literary activities. Pramatha Nath participated in these movements, but his most important contribution was the practical help and advice he gave to the Tatas of Bombay in establishing an Iron-works at Jamshedpur. This was made possible only because of his discovery of the rich and extensive Iron-ore deposits in the Gurumahi-

sani Hill and its neighbourhood in the Native State of Mayurbhanj.

Pramatha Nath retired on the 15th November, 1903, from the Geological Survey, Government of India. Mohini Mohan Dhar, the enlightened Dewan of the Mayurbhanj State, was keen on the development of the State and was helped in his endeavours by the progressive Maharaja Ram Chandra Bhanja Deo. Mohini Mohan appreciated the useful and important work of Pramatha Nath Bose in the Geological Survey of the Government of India, and engaged him for making a geological survey of the State. The State of Mayurbhanj had never been surveyed before and Pramatha Nath was the first Geologist to examine it. In the course of his exploration in the winter of 1903-4, he found unusually rich iron-ore deposits at the foot and along the slopes of the Gurumahisani Hill, besides other minerals in different parts of the State. This was altogether a new discovery. Pramatha Nath brought this fact to the notice of Geologists by publishing his famous paper, "Notes on the Geology and Mineral Resources of Mayurbhanj," in the *Records* of the Geological Survey, Vol. XXXI, Part III (1904). About the find of iron ores, Pramatha Nath wrote as follows :

"The chief mineral wealth of the State consists in its iron-ores, which are possibly among the richest and most extensive in India. In the Bamanghati subdivision, they occur in quantity in the following localities :

- (1) At the foot and along the slopes of the



Gurumahishini Hill, in all directions except the eastern, over an area of about eight square miles.

(2) Near Bandgaon in Saranda-pir.

(3) At the foot and along the flanks of the Sulaipat-Badampahar range on the southern border of the Bamanghati subdivision, from Kondadera to Jaidhanposi, a distance of some twelve miles."

In the Panchpir subdivision the ores occur at diverse places along the foot of the hills which fringe the Similipahar range, on the western and southern side, from Kamdabedi and Kantikna to Takurmunda, a distance of twenty-five miles.

In Mayurbhanj proper iron ores occur at several places in the Simlipahar range, as near Guruguria. They were also encountered at places in the submontane tract just adjoining the Similipahar range on the eastern side—as near Kendua (close to Sorsobila) and at a place two miles west of Baldia."

"The ores except when transported, occur almost exclusively in the transition series, especially in association with banded haematite quartzites. Usually they consist of haematite and limonite. But thick and rather extensive deposits of magnetite were met with at the foot and along the flanks of the Gurumahishini Hill, south-east of Kolaisila, east of Sundol, and also near Kotapiti; magnetite also occurs in quantity near Bandgaon and in the Kondadera-Jaidhanposi area. The average ore in the Bamanghati and Panchpir subdivisions will probably be found to contain over 60, if not over 65, per cent of metallic iron.

It is very difficult to make even an approximate estimate of the quantity of available iron ores. But it would probably be no exaggeration to say that a practically inexhaustible supply for several furnaces on a modern scale may be safely depended upon. The ores are easily accessible from the Sini-Ghatsila section of the Bengal-Nagpur Railway, and a line of

twenty-five or thirty miles would tap the Gurumahi-shini area.

Iron-pyrites occur in some abundance disseminated in talcose and trappean-looking seiche in the transition series at places, as at the Mailamghati on the Dhalbhum border.

In the course of his exploration Pramatha Nath came across a good many families of smelters in the ground described above, and the iron they turned out was held in high estimation by the people. He further added : "But the furnaces are the smallest and the bellows the least powerful of any I have seen in use anywhere in India. The smelters, therefore, select the softest ores, which are generally vary far from the best. When I showed them a few pieces of magnetite, they pronounced these to be more stones and quite useless as iron-ores !"

This important discovery of Pramatha Nath was promptly noticed in newspapers and scientific journals of India and Great Britain throughout 1904 and early in 1905. In its issue of 25th May 1904, *The Englishman* refers to the exploration work of Pramatha Nath Bose as having been attended with "conspicuous success". *The Statesman* of 14th October, 1904, wrote as follows :

"Mr. P. N. Bose, late Deputy Superintendent, Geological Survey of India, who recently retired from the service with an excellent record, has published some interesting Notes on the Geology and mineral resources of Mayurbhanj, an area which has hitherto been a blank on the geological map of India. The Notes deal with the Geological formation of the hill tract and with the deposits of iron, manganese, gold, mica, etc."

*The Mining Journal*, London, did not fail to appraise the importance of the findings of Pramatha Nath. In its issue of 3rd December 1904, the *Journal* wrote as follows :

“The latest district of the prospecting in which we have an account is that of the State of Mourbhanj, one of the States of Orissa, lying between 21·17' and 22·34' latitude and 85·42' and 87·14' longitude. The area was prospected by Mr. P. N. Bose during the winter of last year. The prospecting area has only been partially covered, and it is possible that the portions as yet unprospected may yield indications of mineralisation not less interesting than the districts which Mr. Bose has already visited.”

The last sentence was merely an echo of what Pramatha Nath wrote of further explorations in the wider, hilly tracts of Mayurbhanj for he had foreseen two things clearly : (I) Working of the iron-ore deposits would hasten industrialisation of the country ; and (II) the State of Mayurbhanj would be immensely benefited as a result of the successful mining of these iron-ore deposits. Jamsedji Nusservanji Tata, the business-magnate of Bombay, had conceived the idea of establishing an iron-works in India on a large scale after European model. With the help of foreign experts, Messrs. C. P. Perin and C. M. Weld, he was prospecting for iron in the Central Provinces in 1903-4. He came across the Dhulli and Rajhara iron-ore deposits. These deposits had been discovered by Pramatha Nath as long back as 1887 and his report on it was published in the *Records of the Geological Survey*, Vol. XX, Pt. I, under the heading “The Iron Industry of the

Western Portion of the District of Raipur."\* Coming to know of Tata's ideas, Bose drew his attention to the rich iron-ore deposits of Mayurbhanj in a letter dated 20th February, 1904. He further stressed the advantages of working these iron-ores over those of Dhulli and Rajhara as the former were in the proximity to the Bengal coal-fields. The reactions of J. N. Tata on receipt of this historic letter were certainly great, and let us hear his famous biographer, F. R. Harris, about these and the subsequent events. Meanwhile, J. N. Tata died on 19th May, 1904, leaving his worthy and dutiful sons the legacy of further action on the matter. Harris writes :

"One morning the Tata firm received a letter from Mr. P. N. Bose, whose name was already familiar to them by reason of his report upon the iron deposits in the Drug District. Mr. Bose explained that he had retired from his post in the Geological Survey, and was now in the employment of the Maharajah of Mayurbhanj. The State of Mayurbhanj is one of the tributary States of Orissa, and was then included in the province of Bengal. . . . The Maharajah is subject to British suzerainty, but exercises larger independent powers than any of the other independent chiefs in Orissa. He wanted to develop his territories, and had engaged Mr. Bose to report upon the mineral resources they contained.

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\* "The most relevant portions are as follows : "The richest and most extensive ores of the district are to be found in the Daundi-Lohara Zamindari. Furnaces exist at Killakora, Ungara and Hirkapar. The hill of Dalli, for about seven miles of its length, is full of good haematite, which is developed in hard, red, rather thin-bedded ferruginous Chilpi sandstone. The villages of Dalli and Kondekassa once possessed a very large number of furnaces, but they have been given up owing, I heard, to the Zamindar of Lohara having raised the duty levied on iron furnaces."

Mr. Bose, with the concurrence of the Maharajah, informed Messrs. Tata, Sons and Co. that he had found very rich deposits of iron, and invited them to send representatives to inspect the ore-fields. His statements were on the whole below the mark. In the story of the industrial development of India Mr. Bose is assured of permanent mention. His enquiries were the prelude to the discoveries of Mr. Weld in the Drug area, and he now pointed the way to still more promising results.....

“The Tata partners were perplexed by the letter of Mr. Bose. They thought no deposits of iron in India could equal those they had discovered at Dhalli and Rajhara. At the same time, the statements of Mr. Bose were disturbing. It was clear that he had found important ore-fields. They were also well aware that more iron was being traced in the adjacent British districts of Manbhum, Singhbhum and Dhalbhum. All these districts were far closer to Bengal coal-fields, than Sambalpur, and even the State of Mayurbhanj was not more than 150 miles eastward of their projected works...After some hasty statistical investigations regarding the relative cost of production, they realised that they must look at Mayurbhanj without delay.....

“More than one appeal was received from the Maharajah before the first actual visit ; but at last Mr. Dorabji Tata, Mr. Perin, Mr. Weld, and Mr. Saklatvala went to the Mayurbhanj territory... The party was met by Mr. Bose, and afterwards received by the Maharajah, who welcomed them very cordially. Mr. Bose expounded the promising results of his survey of the state's resources, and Mr. Weld began afresh his interminable inquiries.....

“Mr. Perin and Mr. Weld, accompanied by Mr. Bose, plunged into the trackless hills in the direction of ore-fields, which are situated in the north-west districts of the State...In the lofty Guru-

maishini Hill, which rises to a height of 3000 feet, they found enormous deposits of iron ore, quite as extensive as those at Dhalli and Rajhara.... They further found hundreds of acres of rich 'ore-float'—ore lying loose on the surface, which required no mining, and simply had to be picked up by unskilled labour. The explorers were in the presence of a treasure-house far more potentially valuable than most gold mines. The merest superficial examination indicated that the supply of ore was very extensive...

"Mr. Perin and Mr. Bose found their way back, and a long and careful consideration of the new facts followed. It was clear that Mayurbhanj offered advantages superior to those of Dhalli and Rajhara. It was far near the sea, and nearer the coal-fields... The Sambalpur scheme was therefore abandoned, and the Dhalli and Rajhara ore-beds were retained as a reserve source of supply."\*

The firm of Tata, Sons and Co., approached Sir Thomas Holland, Director of the Geological Survey, for an expert opinion on this subject. They further asked him if he should like to inspect the new mines. Sir Holland's reply was characteristic, "If the 'Tatas'", he said, "are prepared to forsake Dhalli and Rajhara, that is all the proof I require of the value of their new discovery."†

The firm of Tata, Sons and Co. came to terms with the Maharajah in which P. N. Bose played a very important part. Pramatha Nath writes :

"The Maharaja of Mayurbhanj left the settlement of the terms and conditions which led to the foundation of the Tata Iron and Steel Co. to me,

\* *Jamsedji Nusservanji Tata*. By F. R. Harris. Pp. 191-95.

† *Ibid.*, p. 196.

and I did my best to arrange them so as to be advantageous to it as well as to the State. Considering that the Tata Iron and Steel Co. was to be a new industrial venture for India, I readily adopted the suggestion of Mr. Perin, one of the most level-headed businessmen I have come across, to fix the royalty on a sliding scale.”\*

That is, the firm was ‘to take ore for the first three or four years without any royalty, and then to charge a royalty beginning at  $\frac{1}{2}$  anna ( $\frac{1}{2}$ d.) per ton, and gradually rising to 8 annas (8d.) per ton. The average royalty works out over a term of fifty years at  $3\frac{1}{2}$  annas ( $3\frac{1}{2}$ d.) per ton.’† The lease ultimately granted by the Maharaja covers an area of 20 square miles.

In these negotiations, Mohini Mohan Dhar, the Dewan of Mayurbhanj, also played a very important role by virtue of his position. The certificate of approval as well as the prospecting licence for iron-ore granted to the Tatas bore the signature of Mohini Mohan Dhar. On the far-reaching consequences of these negotiations, Pramatha Nath wrote almost prophetically in the Annual Report of the Geological Department—Mayurbhanj State for 1904-1905 :

“That negotiations with Messrs. Tata and Sons have now been practically concluded. Their venture being the first of its kind in India the Maharaja has granted them very liberal terms. But the State will get a fair return not only in revenue but also in numerous advantages incidental to the

\* “Discovery of Gurumahisani” in *Tisco Review* for April, 1933.

† *Jamsedji Nusserwanji Tata*, p. 195.

establishment of an important mining centre within it. Next to land, the iron ores are the most valuable asset the State possesses, and I may venture to predict, that they will yield a handsome easily collected and gradually expanding revenue for many centuries to come. They may, without exaggeration, be ranked among the most magnificent in the world."

Pramatha Nath's momentous discovery of the iron-ores for Gurumahishani was recognised by some of our leaders. The Maharaja Gaekwad of Baroda graciously referred to it in his inaugural address at the second Indian Industrial Conference at Calcutta, which was held in December 1906. He said: "I am glad to find that the able Geologist who discovered suitable iron-ore for Mr. Tata's scheme, Mr. P. N. Bose, has been selected by you to be Chairman of the Reception Committee."\*

Mr. Weld conducted further prospecting operations in the Gurumahishani area of the Mayurbhanj State on the basis laid down by Pramatha Nath under the direction of Tata Sons and Co. satisfied with the results, the Tatas issued a prospectus of the Tata Iron and Steel Company in 1907. This prospectus was written incorrectly. It said that "The discovery of a very large deposit of high grade iron-ore in proximity to coal of suitable character was made in the course of the prospecting operations instituted by the late Mr. J. N. Tata."†

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\* *Report of the Second Indian Industrial Conference held in Calcutta on the 29th and 31st December, 1906. (1907)*

† "Discovery of Gurumahisani" in *Tisco Review* for April, 1933.



Pramatha Nath wrote a letter to Mr. B. J. Padsha, Secretary to the late Mr. J. N. Tata, who had visited Mayurbhanj on behalf of the Tata Sons and Co. on 25th June, 1907, correcting the statement. The letter runs as below :

B. J. Padsha Esqr.

Rothiemay

Darjeeling

Dear Mr. Padsha,

25th June, 1907

I had lately an opportunity of seeing a copy of the prospectus of the Tata Iron and Steel Co.

The second para creates the impression on that the discovery of "very large deposits of high grade iron ore in proximity to coal of suitable character" was made in the course of the prospecting operations instituted by the late Mr. J. N. Tata. Such an impression, as you are no doubt perfectly aware, would be entirely at variance with the actual facts. It was on the 20th February 1904, that I wrote to the late Mr. J. N. Tata drawing his attention to the iron-ore deposits of Mayurbhanj. In the letter I pointed out their richness, their enormous extent and their proximity to the Bengal Coal fields. The iron ore in the Raipur district which Mr. Tata was prospecting at the time I wrote my letter, had been found by me (Records, Geological Survey of India Vol. XX, p. 4, 1887). Being well acquainted with them and other ores in the Central Provinces I was in a position to declare emphatically in favour of the iron ores of Mayurbhanj.

Mr. J. N. Tata died shortly after the date of my letter. His sons, however, took up the matter and opened negotiations with me. As a result of these negotiations, your expert and his assistants visited the iron ore deposits during the cold-weather of 1904-05. They confirmed the statements made by me in my letter to the late Mr.

Tata and in my report ( Rec., Geol. Survey of India Vol. XXX, i. p. 3 ) and Messrs. Tata and Sons soon after took a prospecting license from H. H. the Maharaja of Mayurbhanj.

I hope in justice to me and in the interest of truth you will be so good as to revise your prospectus in the light of these facts.

Yours truly,  
P. N. Bose

Mr. Padsha wrote in reply to Pramatha Nath from Bombay on 3rd July, 1907, as follows :

“Dear Mr. Bose,

Your statement of facts is perfectly correct and I shall bear in mind when we come to the publishing of a final prospectus. In a commercial document one is not always able to reserve place for giving due credit to every one but it is perfectly fair that the document should not be so worded as to imply that credit elsewhere than where it is due.”

Yours sincerely,  
B. J. Padsha.

Pramatha Nath's rightful claim was admitted later on. Mr. C. P. Perin, the American expert, retained his connection with the Tata Iron and Steel Company for a good many years. He referred to the momentous discovery of Pramatha Nath in a letter to Mr. Keenan, dated August 29, 1931, in these words :

“Mr. P. N. Bose was as you perhaps may not be aware the Geologist for the State of Mayurbhanj. It was he who first called attention to the existence of Gorumahisani, and my first visit to that part of the world was under his direction. It is to his discovery that the State of Mayurbhanj owes the development

of their iron ores, and I doubt if the Tata enterprise would ever have existed, had it not been for these facts."

In recognition of his services to the Tatas, a bust of Pramatha Nath was erected at Jamshedpur (formerly Sakchi, and later named after Jamsetji). The unveiling ceremony of the bust was publicly performed at Jamshedpur on the 13th March, 1938. Sir Lewis Fermor, then Director of the Geological Survey and a great admirer and sometime colleague of Mr. Bose, unveiled the bust and delivered a suitable address. Sir Ardesir Dalal, a prominent partner of the Tata Iron and Steel Company, presided over the function. Both of them referred to the important discovery of Mr. P. N. Bose and the services he rendered to the formation of the plant at a suitable place in Mayurbhanj. Sir Ardesir said to the effect that the Iron and Steel Company owed a debt of deep gratitude to the late Mr. Bose. He further added : "But for the discovery by the late Mr. P. N. Bose of the extensive iron-ore deposits in Gurumahishani, the Steel Work today would have been situated at a place much further removed from the coal-fields and the port of Calcutta." Sir Lewis Fermor also testified to this fact in some detail in his speech. He said :

"Be that as it may, it is to Mr. Bose's work that the plant of the Tata Iron and Steel Company is now located at Jamshedpur instead of, probably, in Central India. To appreciate the value of this discovery one has to go back to the endeavours of Mr. J. N. Tata to start an iron and steel industry in India. Mr. Tata did not know whether an iron-ore deposit

was available or whether a suitable site could be had for the establishment of iron and steel industry. He, therefore, got into touch with an American Firm of Engineers, chief of whom were Messrs. Perin and Weld. Investigations were carried on, works have begun in the Chanda district in the Central Provinces and then the interest was transferred to Raipur district. Boring operations led to the discovery of enormous deposits of iron ores at Dhullee and Rajhara. However, Mr. P. N. Bose discovered the Gurumahishani iron-ore deposits in 1904 and the result of this discovery led to the establishment of the Iron and Steel Industry in Sakchi (now Jamshedpur)".

While he was the 'State Geologist' of Mayurbhanj, Pramatha Nath's services were requisitioned by several other Native States. Pramatha Nath made mineral survey of some parts of the State of Patiala and Rajpiplai. Results of his survey in the former were described in his 'Notes on the Geology and Mineral Resources of the Naranul district (Patiala State)\* in 1906, and those in the latter in his 'Note on the Geology and Mineral Resources of the Rajpiplai State"† in 1908. Results of Pramatha Nath's further survey in Mayurbhanj will be found in his paper, 'Notes on a Boring in the Tertiary deposits of Mayurbhanj'‡ in 1906.

In October 1906 Pramatha Nath toured Kathiawar for prospecting. He visited Kathiawar in 1908 again for the same purpose. This year we find Pramatha Nath also going to Kashmir.

\* *Records of the Geological Survey of India*, Vol. XXXIII

† *Ibid.*, XXXVII

‡ *Ibid.*, Vol. XXXIV.

His services were later required by the State of Tipperah. Pramatha Nath went to Tipperah early in 1911 and helped his son Asoke who was then "State Geologist" there in the intricate Geological Survey of the State. With B. Borooah Pramatha Nath floated "The India Prospecting Company Ltd.," a report of which was published in February, 1912. This Company prospected tin-ore at Nurungo, and gold near Manharpur, and Mica— all in the Hazaribagh District. Sir Lewis Fermor, then Superintendent of the Geological Survey of India, and Pramatha Nath Bose paid a visit to the tin-ore deposits in July 1911. Fermor mentioned this visit in his address at the unveiling ceremony of Pramatha Nath's bust at Jamshedpur in 1938.

## CHAPTER IX

### THE SWADESHI MOVEMENT: ITS INDUSTRIAL ASPECT

*Idea of Swadeshi not New—Bose's Activities Reviewed—Plea for a Patriotic Movement, 1903—Swadeshi Stores—Students for Technical Education Abroad—Boycott—"Charka" and Handlooms—Bose's Advocacy for Large-scale Industries—Swadeshi Concerns and Association Started—Second Industrial Conference—Reorientation of the Indian Industrial Association.*

Pramatha Nath tells us that the idea of Swadeshi was not new in Bengal. Leading persons had spoken and written about it throughout the last quarter of the nineteenth century. The Hindu Mela, the first movement for the revival of national culture, arts and industries, organised annual exhibitions along with national gatherings in the late sixties and the seventies. As early as 1876 men had begun feeling the necessity of using *Swadeshi* goods in place of foreign goods. Bhola Nath Chandra, a great publicist and literary figure of the age, wrote as follows :

“Without using any physical force, without incurring any disloyalty, and without praying for any

legislative succour it lies quite in our power to regain our lost position. Nought but our active sympathy has helped the cause of Manchester. The contrary of that sympathy is sure to produce a contrary effect. It would be no crime for us to take to the only but most effective weapon—moral hostility, left us in our last extremity. Let us make use of this potent weapon, by resolving to non-consume the goods of England, and countervailing tendency of such a resolution will put to right all matters that have gone wrong.” \*

But it took at least twenty-five years' strenuous efforts to arouse the people to take recourse of this effective moral weapon. Pramatha Nath Bose in his own way also took up the cause and wrote articles repeatedly advocating the necessity of launching industrial enterprises on modern scientific lines. He pleaded for higher technical and scientific education for the rapid industrial development of the country, and it was through his instrumentality that an Industrial Conference was organised in India for the first time in 1891. The Conference resolved into a permanent body called the Indian Industrial Association and worked for years to create an Industrial bias amongst his countrymen. Lectures were arranged on industrial subjects, exhibitions organised to familiarise the people with the extant *Swadeshi* goods along with our country-made industrial and agricultural implements, and awaken them to the need of resuscitating and improving cottage and other industries. Since 1901 the exhibitional part of

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\* *Moohherjee's Magazine*, January to June, 1876, p. 12.

the Association, was taken up by the Indian National Congress. The Congress exhibition of 1901 gave a fillip to the cause of Swadeshi. The Indian Stores Ltd. of Bowbazar, Calcutta, was founded by J. Chaudhury, Bar-at-Law, just in the wake of the Congress exhibition.

Pramatha Nath Bose, the ardent advocate of industrial progress, could not but be pleased with this new spirit of self-help and self-reliance. And as far back as 1903 he tried to give it a mould on a nationwide basis. He thoroughly discussed the hindrances and drawbacks in the way of our industrial progress.\* Pramatha Nath also drew the pointed attention of his compatriots to the three immediate needs : 1. Capital, 2. Technical Education and 3. Protection. He further stressed the importance of co-ordination of these three in the following lines :

“In the case of the first attempt at industrial development the three conditions we have mentioned above are of co-ordinate importance ; capital is of no avail without technical education to utilise it effectively, and *vice versa* ; and struggling industry the result of the union of capital and mechanical skill will be prematurely withered away if not carefully nursed and protected.”

Pramatha Nath says that ‘the absence of these essential conditions renders the prospects of indigenous industrial development in India very dark’ ; and ‘without capital to speak of, without

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\* ‘A Plea for a Patriotic Movement’ in *National Magazine* for May, 1903.



higher technical education worth the name, and without protection in any form, Young India is more to be pitied than censured for its lack of industrial enterprise.' He, however, suggested solution of this problem. A movement was already going on in different parts of India known as the *Swadeshi* (or, 'Patriotic') movement, its object being protection of indigenous industries. In this movement, said Pramatha Nath, lay 'the germ of a great organisation, which, if well-directed, may effect the industrial regeneration of India.' He then proposed the following practical step :

"A great central organisation with branches in all important towns having for its object the promotion of the interests of indigenous manufactures will go a long way towards at least a partial solution of the complicated problem of Indian industrial development. Such a movement will need in its apostles the exercise of even greater energy, greater patriotism, and greater self-sacrifice than the National Congress. A properly organised *Swadeshi* movement will demonstrate even more forcibly than the National Congress, that the apparently heterogeneous peoples of India are capable of uniting for the common good of their country. It would do for struggling industries in India what is done for them by Governments in independent countries by bounties and tariffs. If it can raise sufficient funds by enlisting the sympathy of the rich, it may bring technical education within its sphere of action, and well equipped technical institutes may be started under its auspices. What little capital there is in the country, if it does not respond to the impulse of patriotism infused into it by the *Swadeshi* movement, would on purely business considerations seek for investment in ventures which

trained hands are ready to start, and for which there is the assurance of protection when started."

Pramatha Nath further added that the idea of such an organisation might appear to many as chimerical. "But there is really no reason why it should not be realised if a few earnest, capable, self-sacrificing men make it the mission of their lives. What is needed is a clear consideration of its urgent necessity, and a firm conviction that without the fostering care and watchful vigilance of some such organisation, the industrial enterprises of Young India will be unsuccessful and infructuous."

The suggestions of Pramatha Nath Bose were true and so practical that an all-India organisation was started within two years. Meanwhile, there was considerable activity in Bengal with regard to some aspects of *Swadeshi*. The Indian Stores of Mr. J. Chaudhury was broadened and became a profitable concern. Other *Swadeshi* stores, such as the 'Laxmi Bhandar' of Sarala Devi Chaudhurani as well as the 'United Bengal Stores' and the 'United Bengal Co.' were also started. In 1904 the Government offered scholarships for technical education abroad, which were readily availed of by students. It should be noted here that Pramatha Nath's eldest son Asoke was the recipient of one such scholarship and proceeded to Birmingham in September, 1904, for higher scientific and technical study. His second son Aloke received the same scholarship one year later. He also went to Birmingham for the same purpose. The Association for the

Advancement of Scientific and Industrial Education of Indians was started on 22nd March, 1904, by Jogendra Chandra Ghosh and other patriotic Indians. The Association sent students to Europe, America and Japan to receive training in various technical subjects. Seventeen such students were sent in 1904 and forty-four in 1905.

Meanwhile, Lord Curzon's indiscreet act of partitioning Bengal in 1905 created a great excitement and the consequent countrywide movement of boycott of English goods gave a fillip to the cause of industrialism which Pramatha Nath was advocating incessantly for a quarter of a century. Weaving schools with improved handlooms were started in Calcutta and elsewhere, and *Charkas* were introduced in Bengali houses with the fund, called the "Bengal National Fund," which was raised on the fateful day of Partition, on October 16, 1905. It is interesting to note that a weaving school called the Tagore Weaving Institution was started at Kustia by Rabindra Nath Tagore. E. H. Harvell, Principal, the Govt. School of Art, Calcutta, encouraged the handloom industry and went so far as to suggest that this alone would supply the needs of clothing without any damage to the ethical standard, or artistic beauty. Amidst all this enthusiasm Pramatha Nath reminded his countrymen that though the improved handloom industry would go some way in solving the country's clothing problem, in the modern times it would scarcely be able to cope with foreign imports. Large-scale cotton mills on modern scientific lines

alone could meet Indian's clothing needs. He wrote :

“Handloom alone cannot be reasonably expected to drive the foreign produce from our markets, or even to make a very serious impression upon it. Let every step that it is possible to take be taken to secure the development of the handloom industry. But, at the same time, there should be no abatement of the efforts which are being made for the expansion of the mill-industry. I am fully alive to the evils wrought by labour-saving machinery. In fact some of the great inventions of modern science which are considered by Western writers as its chief title to commendation are, to my mind, its chief title to condemnation. But the Asiatics must either suffer themselves to be exploited and to be gradually reduced to a condition of extreme poverty, if not of national slavery, or adopt the industrial methods of the West with their concomitant evils which, however, I am happy to say, are never likely to be so serious in the East as they are in the West. Besides, when by establishing mills and factories on a large scale, the Asiatics are able to drive the foreign manufactures from their markets, the occupation of the Western capitalists will be gone to a large extent, and Europe will then revert, to at least partially, to the happy old times of the ‘Cottage Industry’.”\*

Pramatha Nath again delivered an instructive address on “Industrial Development by Indian Enterprise” in July 1906. While noting the intense industrial activity of the Bengalis with some pride, Pramatha Nath could not but deplore the industrially low state of the country. Because the development of the economic resources of India had been

\* “The Possibilities of Handloom Weaving in India.” Cf. *Essays and Lectures, etc.*, by P. N. Bose. Pp. 57-8. (1906).

effected mainly by the Europeans for their benefit and indigenous enterprise had had but little share in this industrial expansion. He especially referred to the statistics of the output of mineral resources and industrial ventures of the country for ten years (1894-1903) and showed that manganese ores increased fifteen times, petroleum more than seven-fold, mica was nearly quadrupled, gold trebled, and coal more than doubled. As regards the manufacturing industries, the number of jute mills nearly trebled and mills for wool, silk, hemp, etc., increased more than ten times, paper mills five times while sugar mills had more than doubled. Pramatha Nath further estimated that not even the fiftieth part of capital of joint-stock companies engaged in mining ventures was contributed by our countrymen.

India must come out of this mess. Pramatha Nath says that 'the spirit of the modern civilisation of the West does not quite harmonise with the spirit of Indian civilisation. But the Indians must take their proper share in the development of the resources of their country (and on that point there does not appear to be any difference of opinion now), they must adapt themselves to their environment, and cast themselves into the whirl of Western industrialism.' Adoption of modern scientific methods in our industrial enterprise would not only prove beneficial for ourselves but it would also be instrumental in stifling the inordinate greed of European powers and sound a death-knell to Western imperialism. Pramatha Nath said :

"The aggressive imperialism of modern Europe is based upon industrialism. It is chiefly in the in-

terest of their industries, that the greater powers of the West are anxious to dominate the peoples of the East. If these peoples made a vigorous well-concerted effort to develop their resources on Western methods, and supply their own wants, their markets would cease to be exploited in the way they now are by Western manufactures, and their lands would cease to be the happy hunting ground of Western enterprise. Western imperialism would then die a natural and peaceful death, at least in its present highly objectionable militant form. That is a revolution so wholesome and far-reaching in its effects—wholesome and far-reaching in the interests both of the East and of the West—that it is well worth a mighty effort on the part of all orientals.”\*

Without a strong and active all-India organisation, the country would not be able to take rapid strides in industrialism, and in 1903 Pramatha Nath suggested the formation of such a central organisation. This organisation would work through branch committees in prominent towns all the year round. Pramatha Nath's proposal materialised in 1905 when, during the Congress session at Benares, the first all-India Industrial Conference was held under the presidency of Romesh Chunder Dutt, then Dewan of the Gackwad of Baroda. He, however, was not satisfied with its resolutions, which were of a recommendatory character. In his opinion, the Industrial Conference should 'have an organisation competent enough to form well-matured plans for the economic welfare of the entire country, powerful enough to carry them out when formed, and representative enough to voice the industrial aspiration of New India.' The Industrial

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\* *Essays and Lectures*, p. 31.

Conference would thus in his opinion present a wider field for action than the National Congress.

According to a resolution of the first Indian Industrial Conference, Provincial Committees were formed, and as President of the Bengal Provincial Committee, Pramatha Nath Bose took an important part in organising the second Industrial Conference in Calcutta in December, 1906, along with the session of the Indian National Congress. The great success of the Calcutta Conference was due to the active efforts of the Bengal Committee under the directions of Pramatha Nath. By virtue of his being the President of the Bengal Committee he became the Chairman of the Reception Committee. The Conference was inaugurated by the Gaekwad of Baroda and Vithaldas Damodardas Thakerey, the great industrialist of Bombay, presided over its deliberations. The Conference was held on the 29th and 31st December, 1906. As Chairman of the Reception Committee, Pramatha Nath gave a resume of the efforts made in the matter of the industrialisation of India up to that time. He also stressed the impetus given by the *Swadeshi* movement to Indian industries. He laid down the precise objects of the Conference in the following lines :

“This platform affords us an excellent opportunity for the discussion of important industrial subjects and for an interchange of ideas. But the more important part of our work will have to be done silently and strenuously in the study, the laboratory, the field, and the workshop and the factory. The subjects dealt with by the National Congress are mainly of a nature which precludes the possibility of strong fruitful action. Year in and year out,

therefore, they have had to content themselves for the last twenty years with advocating reforms and recommending measures the execution of which depends upon a will which is not their own. The Industrial Congress, however, presents to us a very wide field for action calculated to lead to momentous results in the immediate future ; and we need not, and in my humble opinion, should not urge a single measure which we are not prepared to carry out gradually ourselves either independently or with the help of the Government.”\*

Pramatha Nath took a prominent part in the deliberations of the Subjects Committee. He has later referred to an incident in the Subjects Committee in which a proposal of Matilal Ghose, Editor of the *Amrita Bazar Patrika*, on ‘Charka’ was laughed out. Pramatha Nath himself writes :

“As President of the Reception Committee of the Industrial Conference, I came into close contact with Sj. Matilal Ghose. I have not come across a more unassuming, sincere, genuine patriot. He wanted the Conference to pass a resolution about the re-suscitation of “Charka” and the Reception Committee approved the idea. When the matter came up before the Subjects Committee, however, Vithaldas Damodardas Thakersey and other industrial magnates considered it to be too ridiculous for the twentieth century, and laughed it out. How opinion has changed since 1906 !”†

The first Resolution passed in the open session related to Technical and Commercial Education. The Resolution asked the Government, *inter alia*

\* *Essays and Lectures*, Second Edition (1917), pp. 61-2.

† “Reminiscences and Reflections of a Septuagenarian”, VI. Cf. *Amrita Bazar Patrika*, February 21, 1932.



'to establish a sufficient number of Secondary Technical and Commercial Schools, a superior Technical College for such province, and one fully equipped first class College of Technology for the whole of India'. A Committee was formed to prepare a memorial on these lines for submission to Government. Along with Lala Lajpat Rai, D. E. Wacha, Vithaldas D. Thakersey, R. C. Dutt and others Pramatha Nath Bose was elected a member of this Committee.

It was after twentyfive years' continuous hammering and propaganda that Pramatha Nath's dream came true. Intense industrial activity followed the wake of the Swadeshi movement in Bengal. Companies and associations were started for the industrial regeneration of the country. 'Cottage' as well as large-scale industries received equal attention. Modern scientific methods were applied to these latter ventures. For technical and scientific education the Bengal Technical Institute was formed in 1906. In the establishment of this Institute Pramatha Nath who had been writing since the mid-eighties as to its necessity, had a large hand. His writings, addresses and actions were a source of inspiration to our countrymen, especially the industrial section. He may be rightly considered as the philosopher of the *Swadeshi* movement so far as its industrial aspect was concerned.

Something should be said here of the Indian Industrial Association in sponsoring which in the early nineties of the last century Pramatha Nath played a large part. During the days of the Swadeshi movement the Association was revitalised through the efforts of T. N. Mukherjee of the Indian Museum

and Ray Parbati Sankar Chaudhuri of Teota, Dacca, the latter was the Association's Honorary Secretary. The Association organised public lectures on industrial subjects and supplied requisite information to the industrial public. In 1909 Pramatha Nath issued a "Note on the future work of the Indian Industrial Association." Functions of the Association had been taken up by different bodies, still it did not lose its usefulness. Pramatha Nath wrote in his Note :

"This Association has done important pioneering work, and though it has been relieved of its duties in regard to Technical Education and Exhibition, it has still a very wide sphere of activity before it. The industrial development, especially in Bengal, is still in its infantile stage, and requires careful watching and nursing. The new-born industrial energy of our Province is being mainly directed to such ventures as soap, match, perfumery, pencil, etc. Even in regard to several of these, the schemes, I am afraid, are not well considered and formulated before they are acted upon."

Pramatha Nath added that the manufacturing industries, such as cotton, sugar, leather and tobacco and the mining industries, such as iron, copper, lead, tin and aluminium might be fruitfully advised by a Committee of experts instituted under the auspices of the Indian Industrial Association. He further suggested that the Association would convene a conference every year, which would be "representative enough to voice the industrial aspirations of modern India, competent enough to formulate plans for the industrial welfare of the country, and powerful enough to help to carry them out."

## CHAPTER X

### NATIONAL EDUCATION : THE BENGAL TECHNICAL INSTITUTE

*Previous History—Fresh Impetus from the Swadeshi Movement—Two Educational Societies formed and registered—Foundation of the Bengal Technical Institute—P. N. Bose : Honorary Principal—P. N. B.'s Share in the Preparation of the Curriculum—Report by Cunningham, 1908—Resigned Principalship but Appointed Rector—Amalgamation of the National Council of Education with B. T. I.—Brief History of the Institution—P. N. B. Rector and Member up till July 1920—Rectorial Addresses—Views on National Progress—Visitor and Hony. Member, 1932.*

The idea of 'national' education was more than a century old, in fact, very much older than that of *Swadeshi*. The first national school worth the name was the *Tathwabodhini Pathshala* (1840) of Maharshi Devendra Nath Tagore, started with the object of giving instruction through the medium of Bengali. The National School of Nabagopal Mitra was established in 1870 under the auspices of the Hindu Mela to give especial instruction in Chemistry and Drawing as also in riding and use of fire-

arms. The *Brahmacharya Vidyalyaya* of Santiniketan was founded by Rabindra Nath Tagore after the model of the ancient *Ashramas*, seats of learning of our country. But scientific and technical education for which Pramatha Nath Bose was advocating for a quarter of a century, did not constitute a part of the curriculum of studies of these schools till after the commencement of the *Swadeshi* movement in Bengal.

The movement for the "Boycott" of British goods in 1905 led to the boycott of educational institutions. The national leaders formed themselves into a Provisional Committee to prepare a scheme for suitable instruction of both the school and college students, who had left their educational institutions. Two divergent views prevailed in the Committee. One was for starting a central institution for Arts and Technology. The other was for exclusive instruction in Technology. Tarak Nath Palit was a strong and persistent exponent of the latter view. Some other leaders were also of the same opinion, but being in the minority they could not carry the Provisional Committee with them. Hence two educational societies were constituted and registered on 1st June, 1906 under the names of (1) 'The National Council of Education' and (2) 'The Society for the Advancement of Technical Education in Bengal.' Tarak Nath Palit approached Pramatha Nath Bose, the life-long advocate of technical education, for help and advice. Pramatha Nath found that his life's dream was about to be fulfilled and readily advised him. In fact, Pramatha Nath was largely responsible for the foundation of the Bengal

Technical Institute. The Institute was the offshoot of the Society for the Advancement of Technical Education in Bengal. He writes,

“During the *Swadeshi* upheaval in the beginning of the current century, the late Mr. (afterwards Sir) T. Palit consulted me as to the purposes to which the *Swadeshi* impulse might be most advantageously directed, and I advised him to start an institution for technical education. He enthusiastically took up the idea, as did also my esteemed friend Dr. (afterwards Sir) Nilratan Sircar. We used to have frequent meetings chiefly at the house of Dr. Sircar to discuss details of the scheme of studies at the proposed institution. Besides Mr. Palit, Dr. Sircar and myself there used to be present at these gatherings Mr. (now Sir) Debasprasad Sarbadhikary, Dr. Pran Krishna Acharya and Messrs. Satyananda Bose and Bhupendra Nath Bose. The Bengal Technical Institute was then established at the house which is now occupied by the University College of Science and Technology in Upper Circular Road. I was appointed Honorary Principal and Dr. Sircar Honorary Secretary.”\*

The premises belonged to Tarak Nath Palit. For the Institute there was an Advisory Committee of experts consisting of Dr. J. C. Bose, Dr. P. C. Ray, Dr. Brajendra Nath Seal, P. Mukherjee and Chandrabhusan Bhaduri. The Principal donors were the Maharaja of Cooch-Bihar, Maharaja Manindra Chandra Nandy, the Maharaja of Mymensingh, Dr. Rashbehari Ghosh, the Rajah of Dighapatia, T. Palit and his son L. Palit, Kumar Manmatha Nath Mitter, Kumar Narendra Nath Mitter, Gaganen-

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\* “The Bengal Technical Institute”—*Journal of the College of Engineering and Technology, Jadavpur*, 25th Anniversary Number, p. 24.

dra Nath Tagore, the Maharaja Tagore, S. P. Sinha, B. Chakravarty, R. N. Mookerjee, Anath Bandhu Guha, Deepnarain Singh, Sailendra Nath Mitra, Tilakdhari Lal and Jyotish Chandra Mitter. The organisation of the workshop cost over a lakh of rupees, and the monthly expenditure for some time amounted to about Rs. 4,400, nearly half of which was met by Tarak Nath Palit. The Society had a strong executive committee to manage the affairs of the Institute. Pramatha Nath was an influential member of this Committee.

The work of the Bengal Technical Institute started on 25th July, 1906. As referred to by Pramatha Nath, details of the scheme of studies had already been discussed with Dr. Sircar, Pramatha Nath and others. The Institute had three departments; Primary, Intermediate, and Secondary. The Primary department was intended for training skilled labourers. There were as many as twenty-four subjects, and each candidate had to select one of them. The subjects varied from hardware, smithy, carpentry, electro-plating and gilding to dairy work and weaving and spinning. The Intermediate department was intended for training skilled operatives and assistants to foremen, engine-drivers, fitters, and mechanical draftsmen. The authorities of the Institute contemplated to teach the students in the Secondary Department in the following subjects: 1. Mechanical Engineering, 2. Electrical Engineering, 3. Sheet-metal working, 4. Textile Manufacture, 5. Technological Chemistry (Pharmacy, Ceramics, Tanning, Paint, Polish and Varnish making, Dyeing and Bleaching, Soap, Candle, Oil and Per-

fume-making ; Preparation of Matches), 6. Commercial Course, 7. Economic Geology and Mineralogy.\*

The scheme of studies covered every aspect of technical education and could not be followed at once. By 1908 most of the curriculum in the Primary and the Intermediate stage were introduced. Mr. Cunningham in his report on Technical and Industrial Education in Bengal (1908) thus spoke of the Bengal Technical Institute :

“It was started in August (?), 1906 at 92 Upper Circular Road where large workshops have been erected—Mechanical workshops, Smithy, Electrical Engineering shed and Carpentry shed. There are also arrangements for teaching Drawing, Chemistry and Dyeing. There are moderately equipped Physical Laboratories. The Institute was started under the revolution which followed the partition of Bengal, but the system of instruction has fortunately been directed on sound lines. For funds the Committee are principally indebted to Mr. Palit, Barrister-at-law, and have the advantage of the assistance of two master-minds in the Mechanical and Educational world of Calcutta. All the courses have not yet been started. The secondary course, as it is called, is for three years, though it is hoped, it will be extended to four years. It is proposed to have courses in Mechanical engineering, Electrical engineering, Sheet, Metaling, Technological Chemistry, Commercial course and Economic Geology.”

The Executive Committee of the Society consisted of the leaders of different walks of life. In 1908 Dr. Rash Behari Ghose was its President and its Secretaries were Dr. Nilratan Sircar, Satyananda

\* For the full scheme of studies, please see *Report of the Second Indian Industrial Conference, 1906, Part II (c), pp. XLIV-XLV.*

Bose and Ramani Mohan Chatterjee. T. Palit, R. N. Mookerjee, P. N. Bose, Devaprasad Sarbadhikary, Prankrishna Acharya, B. L. Chaudhuri, Moulvi Syed Samsul Huda and several others were its members. We find the famous artist Gaganendra Nath Tagore working with Kumar Manmatha Nath Mitra as treasurer. Among the Patrons were the Maharajas of Cooch-Bihar, Mayurbhanj and Cossimbazar. The Bengal Technical Institute progressed beyond all expectation, chiefly because of the personal supervision and guidance of its Honorary Principal Pramatha Nath Bose. Conscientious to the extreme, Pramatha Nath, however, could not continue in the post because of his absence from Calcutta and he resigned late in 1908. The Executive Committee of the Society could not deprive themselves altogether of his service. So they appointed Pramatha Nath as Rector of the Institute. It was a post of great honour, and he accepted it gladly.

The National Council of Education ran the Bengal National College and School along with a Technical Department having the same objects as the Bengal Technical Institute. The first flush of exuberance of the *Swadeshi* movement had gone and some of the leading members of the National Council of Education and the Society of the Advance of Technical Education felt that these two bodies should be amalgamated with their respective institutions. We find mention of it in the first Rectorial Address (1909) which Pramatha Nath delivered before the alumni of the Bengal Technical Institute :

“Bengal is going forward indeed. The Bengal



National Council of Education which, like this Institute, has sprung up within the last three years is another notable creation of indigenous effort. I may note by the way that negotiations for the amalgamation of the two Institutions have been going on for some time past. It is to be hoped that a satisfactory conclusion will soon be arrived at. If both sides proceed in a spirit of compromise such as should be, inspired by a whole-hearted desire for the good of the country, the difficulties which now stand in the way will, I have no doubt, be removed. If the amalgamation is effected, the foundation will be laid of a modern Technical University of higher order.”\*

A workable compromise formula for the amalgamation of the two bodies was arrived at. The formal amalgamation of the Society with the Council took place on the 25th of May, 1910. The Science and Technical departments of the National College were included in the Bengal Technical Institute and the Arts departments remained as before with the Bengal National College and School. The two were placed under the two separate Managing Committees subordinate to the Executive Committee of the National Council of Education. There was now no need for the Society for the Advancement of Technical Education in Bengal which was abolished. Pramatha Nath was appointed Rector of this amalgamated body. He had played a very important role in the negotiations for amalgamation, which we can see from the following :

“I soon found that the amalgamation of the Institute with the Technical side of the National

\* *Essays and Lectures*, second edition (1917) : “Rectorial Address, Bengal Technical Institute, 1909,” pp. 64-5.

Council of Education with which I was connected from the start would be beneficial to both the institutions and set on foot negotiations for the purpose. They were concluded in 1910, and I was appointed Rector by the National Council of Education. I thus referred to the amalgamation in my Rectorial Address in 1911 :

“It is expected to be highly beneficial. The financial position of the National College and the Technical Institute, both of which are now located in the same premises, being sounder than before, there has been some improvement, and we may expect still further improvement, in the equipment of our laboratories and workshops as well as in our teaching staff. There has been another and perhaps still more important gain. For the promotion of a cause like ours we want funds, as well as men who will work whole-heartedly and apply those funds to the best advantage. The number of such men, I regret to say, is extremely limited. The energies of the few we have, instead of being dispersed, are now focussed into what must practically be considered as one institution. Offsprings of the same national movement, the two sister institutions, the Bengal National College and the Bengal Technical Institute, are now bound by common interests.”

Pramatha Nath's connection with the Bengal Technical Institute and for the matter of that with the National Council of Education as Rector and Member lasted for ten years more. He resigned from his Rectorship in July, 1920. From the time of amalgamation up to the time of his resignation the Council met with considerable changes and reverses. Tarak Nath Palit, Pramatha Nath tells us, was strongly against amalgamation. He, however, allowed the Institute to have its habitation in his premises at 92 Upper Circular Road

till the end of 1912. He donated the usual Rs. 2000 per month till April, 1912, when he stopped payment and gave six months' notice to the Council to vacate the premises.

T. Palit transferred his benefactions to the Calcutta University. The Bengal Technical Institute with all its adjuncts was transferred to the Panchabati villa, Maniktala, late in 1912. The Council has then endowments to the value of about nine lakhs of rupees and an assured annual income of Rs. 55,000. The workshop with machinery and appliances valued at a little over ninety-six thousand rupees. The Calcutta University having introduced the Post-Graduate studies under the guidance of Sir Ashutosh Mukherjee, the necessity for the Bengal National College could no longer be appreciated by the public. For want of students the College had to be closed in 1916-17. The School was also abolished in 1920. But in spite of these reverses, the National Council could very well congratulate itself for the progress the Bengal Technical Institute made and the popularity it attained by 1920. Loss of benefactions of Tarak Nath Palit was more than made up by the princely legacy of Dr. Rash Behari Ghose which was valued at over sixteen lakhs. It enabled the Council to locate the Bengal Technical Institute in magnificent buildings at Jadavpur near Calcutta with well-equipped laboratories, workshops, hostels for students, etc. The technical education imparted there was so greatly improved and expanded that the name of the Bengal Technical Institute was changed to "College of Engineering and Technology Jadavpur" in May, 1929.

Pramatha Nath's contribution to the building-up of this Institution cannot be over-estimated. His annual Rectorial addresses are masterpieces of national literature. Four of them only have been preserved in his *Essays and Lectures*, second edition, published in 1917. On each occasion he noted the progress the Institute made in furthering the cause of industrialisation of the country. Pramatha Nath's views on scientific progress in the modern world gradually changed. He advocated a measure, called by him "the Negative Method," for the conservation of our national wealth and resources. Though a votary of modern science and a protagonist of technical education, Pramatha Nath came to feel that world's misery was largely due to the unbridled and thoughtless application of Natural Science to modern industrialism. Let us give extracts from his Rectorial addresses to illustrate his viewpoint. In the Rectorial address of 1909, at the Bengal Technical Institute, Pramatha Nath says

"This institute as I have said before, tries to remove one of the obstacles in the path of industrial progress—want of technical education. But it is worse than useless to turn out technical skill unless capital comes forward to join hands with it. . . . The start must, therefore, come from patriotism. I have long been a humble worker in the cause of Swadeshism. But at the present stage of our industrial development, I have always understood its function to be chiefly the revival of our own practically extinct industries on modern lines." (*Essays and Lectures*, 1917, pp. 68-9)

Again,

"It gives me very great pleasure to note that a vigorous attempt is now being made in the direction

of industrial development on modern lines. Earnest attention is being directed towards such industries as cotton manufacture, sugar, soap, pottery, metal, pencil, tobacco, dyeing and tanning. One of our worthy secretaries the versatile doctor of exuberant energy (Dr. Nilratan Sircar) finds time amid the exacting demand of an extensive practice not only to discharge the onerous and multifarious duties of his highly responsible office at this Institute but also to launch on various industrial enterprises. Our venerable President and several members of our Executive Committee among whom I may mention the name of the Maharaja of Cossimbazar are also taking a leading part in the matter." (*Ibid.*, p. 71)

In his second Rectorial address in 1911, the first of its kind after the amalgamation had been effected, Pramatha Nath said that he would interpret 'technical education on national lines' as 'technical education on Western methods but adapted to our national requirement.' In his Rectorial address in 1914 Pramatha Nath warned his countrymen against the evils of over-dependence on Government or any outside agency. The views he expressed here, may be applied with greater force even today. He says :

"There are but few of our undertakings which can be said to thrive without Government support or recognition, direct or indirect, in some shape or other. No wonder therefore that people look askance at and are suspicious of the stability of institutions like those under the control of the National Council of Education which strive to get on without such support or recognition. We bitterly complain of bureaucratic interference but act so as to make such interference inevitable. We talk loudly of self-government as if we

were in desperate earnestness about it, but act so that we not only show ourselves incapable of it but also gradually render ourselves more and more unfit for it. We vociferously protest against the increasing employment of high-placed Europeans, but act so as to lead inevitably to such employment. For our craving for State-agency leads to the multiplication or expansion of State departments which, under existing conditions, means the extension of European agency. We talk loudly of national progress, but are oblivious of the elementary principles of such progress that a nation has to work out its own salvation by its own effort, and that the more help we take beyond a certain limit the more helpless we become." (*Ibid.*, pp. 92-3)

Pramatha Nath asked his countrymen to cultivate the cardinal virtues—Benevolence and Regard for Truth. Such qualities as energy, steadfastness of purpose, perseverance, patience and punctuality, if not subordinated to these two cardinal virtues, might prove disastrous for the well-being of the nation. He exhorted his countrymen that 'unless we go back to our old ideal of plain living and high thinking, and are actuated by a self-sacrificing missionary spirit not only in religious movements, but also in social, educational and industrial movements we are not likely to make much headway.' (*Ibid.*, p. 95)

In his Rectorial address in 1915 Pramatha Nath explained the necessity of harmonising the positive method of industrialism on modern lines with the negative method of conserving our energy and resources, with a cry of halt to 'rise' in our standard of living. In his view:

“The negative method of restoring our industrial equilibrium would consist in setting our face against this so-called ‘rise’ in conformity with the ideals of ancient culture. Until that is done, the positive method of industrial development will be more or less unsuccessful. The two methods must work hand in hand ; one would be ineffective without the other. The agriculturist will never be able to improve agriculture if his resources be frittered away upon brummagem fineries and shoddy superfluities instead of being husbanded for measures and improved appliances. Industries cannot be developed on modern methods without large capital, and capital will not accumulate if it be wasted upon objects which contribute neither to physical, nor to moral efficiency.

“The negative method differs from Swadeshism, as it is now understood, in the fact, that whereas the latter would minister to the new wants which have been created in response to the so-called ‘rise’ in the standard of living before the old wants have been supplied the former would resist this ‘rise.’ Swadeshi activity especially on this side of India instead of being concentrated upon articles which we cannot absolutely do without, is at present largely directed towards the manufacture of futilities, inutilities, or superfluities, which, I am inclined to think, are as much a social menace as imported articles of a similar character.

“Besides, unlike Swadeshism, the principles of the negative method, I suggest, taking its stand as it does on the broad foundation dug deep down into the eternal verities of human nature by the ancients would be universally applicable. Its adoption would be fruitful of wholesome results in the West as well as in the East. Simple ethical living which would be its necessary consequence would be as beneficial to the Westerners as to the Westernised Easterns.”  
*(Ibid., pp. 108-9)*

Pramatha Nath further elucidates the negative method in the same address :

“I am fully alive to the difficulties of putting the Negative Method into practice. But I am not sure if they are more serious than those which beset the path of the Positive Method. Indeed from my experience of indigenous ventures especially on this side of India, during the last thirty years, I do not know if it would not be easier to check the phenomenal expansion of our textile requirements by reverting to the indigenous standard of decency and comfort than to extend the cotton mill industry to cope with the perpetually increasing demand created by the exotic standard ; to restrict our tinctorial requirements to indigenous dyes than to start factories for coaltar-dyes, to go back to the days of *gur* and coarse sugar and of slippers and sandals than to start large sugar factories and tanneries ; to be satisfied with our metal plates and vessels than to develop china and glass works ; to check the growing rage for socks and stockings, than to start hosiery factories. All that is needed is that we should be guided by the ideals of our ancient culture. The maintenance of the supremacy of that culture is the essential pre-requisite of the success of the Negative Method.” (*Ibid.*, p. 109).

Pramatha Nath very rightly anticipated Mahatma Gandhi in the ‘Negative Method’. He later explained this method in order to solve the unemployment problem of the country.

The National Council of Education elected Pramatha Nath ‘Visitor’ at its general meeting early in 1921. He was made the Honorary Member of the Council in 1932, a rare distinction ever bestowed by them.



## CHAPTER XI

### PRAMATHA NATH'S FAMILY

*With Kamala in Survey-tours, 1882-93—Ideal Housewife and Dutiful Mother—Kamala's Protracted Illness, 1895-6—At Asansol with Sons and Daughters—The Latter's Education—Return to Calcutta for the Same Purpose—Dharmatala House : a Centre of Culture.*

From 1888 to 1903 we have seen Pramatha Nath both as a responsible officer of the State and as a scholar and constructive national thinker. We shall now see how his wife Kamala was a true friend and comrade to Pramatha Nath. In his strenuous survey-work in the dense forests, in the steep hilly tracts, in the fever-affected areas, or in far-off Burma, Kamala was by the side of her husband. Strong and brave, she could put up with all kinds of difficulties and dangers calmly.

In October, 1882, just three months after their marriage, Kamala accompanied Pramatha Nath in his survey-tour in Madhyapradesh, then called the Central Provinces. Kamala has left us an account of this and several other tours with her husband in her Bengali auto-biography. Railways had not then penetrated the interior of the Central Provinces,

or in Central India, and people had to resort to other and some time primitive conveyances. Kamala and Pramatha Nath first went to Raipur. Here Pramatha Nath prepared the tour-programme. When the tour-programme began, they found that the jungle-paths could only be travelled on horse-back. Of her new experiences and reactions in the first survey-tour, Kamala writes :

“The tour-programme was prepared while at Raipur. We had to live a camp-life in dense forests for six months of the year. There was no conveyance available except horses. I never rode a horse before. It was here that I first learnt riding. Two horses were purchased, one of them with a side saddle. One horse was meant for me and the other for my husband. I became a rider ! Government also supplied us with a camel to carry tents, boxes and beddings. Both men-servants and maid-servants accompanied us on the camel's back. Tents were pitched at places from ten to fifteen miles apart, and at every place we had to stay for four or five days for field-survey. We lived for six months in the jungles after which we returned to Calcutta.

“During the first year, the region between Raipur and Bilashpur was surveyed. On the bank of the Narmada at one place, we found a waterfall with a thousand streams. At another place we were delighted to see an old fort with stables for horses and elephants as well as a *harem* of the Ranis.

“We passed our evenings with the local aborigines—the Kols and the Bhils. My husband would call them to him and ask them about their manners and customs. I enjoyed their conversation immensely. These people earned their livelihood by hunting game. They cultivated vegetables, such as pumpkins, gourds and beans and kept fowl. Nothing more

was available there. We took tinned food sufficient for six months' consumption with us. After a continuous tour we returned to Calcutta in April. When we came to the station and boarded the train bound for Calcutta, it was a great pleasure to see Bengali faces and hear them talk Bengali after an absence of six months."

Their first child Asoke was born on 31st July, 1883. There was great rejoicing in the paternal families of both Pramatha Nath and Kamala. But Pramatha Nath had again to leave head-quarters in October. Kamala, quite undaunted, accompanied him with her three months' old baby. As previously most of the travelling had to be done on horseback. The little child was carried in a bassinet from place to place. Wild elephants, bears and tigers abound in the C. P. forests. Camp-life in these forests was fraught with danger. But Kamala unafraid played the double role of a good housewife and a dutiful mother.

They returned to Calcutta in the following April. Their second child Alope was born on 12th October, 1884. When Pramatha Nath went on his survey-work once again Kamala accompanied him and they took their two babies Asoke and Alope, the latter only one year old. The babies were given a separate horse for conveyance under the charge of a competent person. These tours through dense jungles full of tigers and other wild animals only made Kamala more self-confident and courageous. On their return from this year's tour their third child and first daughter, Sushama, was born on 25th April, 1887. Kamala accompanied her husband for the fourth time to Central India with

three children. Even for adults camp-life was hard and to be burdened with small children required grit. Their second child being ill, Kamala had to leave the field earlier. Pramatha Nath became intimate with the Gonds of Central India. He wrote a beautiful long poem on the traditional history of the Gonds and got it published later in his Bengali book "বিবিধ প্রবন্ধ" ("Miscellaneous Articles)". He finished his survey-work and returned to Calcutta as scheduled. Their second daughter, Surama, was born on 16th July, 1888.

Pramatha Nath was posted in Assam in 1888. Kamala went there with her four children. Assam was notorious for malarial fever. Kamala says that their children had grown healthy and strong on account of riding in the jungle regions of the C. P. But this time they along with her husband fell an easy victim to malaria. She had no other alternative but to come back with her children and go to Darjeeling for a change. Fortunately for them Pramatha Nath was chosen by the Department for survey-work in the hilly tracts of Darjeeling, where coal and copper were supposed to exist in abundance. Pramatha Nath was engaged in field-survey in these regions for two official terms. Kamala lived some time in Darjeeling and some time elsewhere in the hilly regions with her children. Kamala's experiences in this new area were quite novel and exciting. Pramatha Nath continued his survey at a higher altitude. He reached the Tibetan border with the Political Agent, an altitude of more than twelve thousand feet and wrote a letter

to Kamala from Gnathong on 3rd November, 1889, in which occurred these few lines :

“We came here yesterday. This is a military station close to the Tibetan frontier. This place is 12,300 ft. high. The road was very steep, the ascent from the last halting place (Sodemdu) being quite 5000 feet. However, I managed to walk without any serious inconvenience.”

Pramatha Nath has immortalised this venture in a Bengali article named “हिमालये एकटी नोहार बाहुर पासो” (“Beside a Snow-Stream in the Himalayas). His family, Kamala and children, lived in a rented house (“Lasha Villa”) at Darjeeling. Here their third daughter, Pratima, was born on 14th November, 1890.

Pramatha Nath was next required to survey some difficult places of Lower Burma in the Mergui Archipelago and along the Tennasserim river in 1892 and '93. This time he took Kamala, his two sons Asoke, Aloke and his daughter Sushama with him. The two youngest children were left behind in the care of their grandmother Mrs. R. C. Dutt. It was not a little wrench for their mother Kamala, but she had no hesitation in accompanying her husband to far-off Burma leaving them behind. Pramatha Nath moved from place to place in the interior of those two regions. Kamala and the children had to be left behind in rented houses in that unknown country. Pramatha Nath surveyed the areas in two terms. As his constant companion, Kamala bore all sorts of hardships. She has left us an account of some of interesting experiences of these two sojourns in Burma. Of her first sojourn she writes :

“After preliminary arrangements my husband went to Mergui Archipelago for survey-work. We remained behind in an island, where we had to live in an old bamboo house. The people of the locality were all fishermen. They dried fish and carried on business in them. Their main food was this dried fish. We could get rice and eggs only. We had taken condensed milk for our children, and rice, pulses and other things also. The villagers did not drink cow’s milk, keeping the milk for the calves. One day my husband went to a distant island, leaving us alone there. He told me that he would return after fifteen days. Fifteen days passed, but he did not come back. There was no means of getting news. The steamer came only once a month, I could not send him any letter by post. It was a period of extreme anxiety for me. One day my servants told me that thieves had stolen their rice. I was helpless. The Police were all Burmese, they could not understand our language. At last my husband came. He said that he had to survey a large area, therefore he could not return earlier, he had no means of communicating the matter to me. The steamer did not ply in all places. The ship went to Singapore only once a month. There was no other means of communication save and except this Singapore-bound ship. After remaining there for November, December and January we came back to Mergui. We lived in a rented house at Mergui for the remaining three months. My husband surveyed new regions here. We returned to Calcutta *via* Rangoon in April, 1892. We were much pleased to meet our young daughters Surama and Pratima again.”

During their second sojourn, an old dilapidated house could be available for Kamala and children on rent at Tavoy. Pramatha Nath went far into the interior of the district. He had to stay there for many weeks at a stretch. The house she lived in

was believed to be a haunted house. A constant noise was heard at night. Once at dead of night when all were asleep, Kamala took a stroll in and around the house with a lantern in her hand and found to her surprise that the noise was due to free movements of rats in the ceiling ! After some time she left the house, and, when Pramatha Nath went to survey the region along the Tennasserim river, she used to live in a small boat. She enjoyed the new home very much. After serving the full term in Lower Burma Pramatha Nath returned to Bengal with his family in April, 1893.

In spite of her desire, Kamala could no longer accompany her husband in his survey-tours, as the education of their sons and daughters compelled her to stay in Calcutta. The sons were sent to schools. Kamala was all attention to their education. It was due to her fostering care that her two elder sons Asoke and Aloke could progress so rapidly in their academic career. Pramatha Nath could remain in Calcutta only for six months in the year. He had many other pre-occupations, besides his official duties. It was only because of Kamala that he could find so much time and leisure to carry on his official as well as national work.\*

Kamala was generally healthy. But it was after the birth of her third son, Amarnath (29th January 1895), that she contracted fever from which she took more than a year to recover. Pramatha Nath rented a house 'Sunny Park' in Darjeeling in 1895 and the following year "The Lounge," both the houses belong-

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\* Sja. Sushama Sen has given some detailed account of their stay in Calcutta at Park Street in her "Reminiscences."



Kamala Bose





ing to Cooch-Behar, for recouping Kamala's health. Her father Romesh Chunder Dutt went and stayed with her, as Pramatha Nath had to be away most of the time for his official and literary work. He was preoccupied with the publication of his masterpiece *A History of Hindu Civilization under British Rule*, second and third volumes. Here at Darjeeling Kamala was able to renew her friendship with Maharani Sunity Devi after a long time. Kamala has given us an account of a picnic with her and other friends at the Birch Hill tea-garden, at the end of which, in the evening, Rabindra Nath Tagore joined them and sang inimitable songs.

Kamala went to Asansol in early January, 1897, and lived in a rented house there, with her sons and daughters. The previous December Pramatha Nath had leased a coal-mine in that area. He had to work five days in the week at his Calcutta office. He could, therefore, only pass his week-end with his family at Asansol. Kamala managed family affairs. She also used to take some intelligent share in the management of the coalmine. The rented house was purchased. Pramatha Nath admitted their sons into the local school and sent their daughters to the Convent for study. The Bose family lived at Asansol for about three years. They transferred their residence to Calcutta at the end of December, 1899 for the higher education of their children. They rented a big house at 63 Dharmatola Street. Kamala's father Romesh Chunder Dutt was then staying with them. He had come back from Lucknow after presiding over the Lucknow session of the Indian National Congress.

Pramatha Nath and his family lived for about four years at the Dharamatola House. Their sons and daughters nine in all were under the direct supervision of Kamala, Pramatha Nath mostly remaining outside Calcutta for official work. They gave their sons and daughters proper education. The two eldest sons studied in the Presidency College. The daughters were sent to the Convent. The house of the Bose family became a centre of light and culture. Both Kamala and Pramatha Nath were very fond of music. One of their daughters has given us a beautiful picture of their life at the Dharmatola House :

“We were nine brothers and sisters. We spent our days in joy and happiness. There was no cinema or theatre then. Mother arranged our amusements in the house. We had musical soirees in the evenings. These were attended by many of their friends. Rabindra Nath Tagore, D. L. Roy, Satyendra Nath Tagore and many other friends joined these soirees which delighted us highly. Besides this, we brothers and sisters, often sang songs and played games amongst ourselves, and spent a very happy time. We stayed in our respective schools during the daytime. After return home and preparing our lessons, we all met together and enjoyed one another’s company. Our mother joined us. Our grandmother (Mrs. R. C. Dutt) lived with us for some time. She also participated in our games and amusements very gladly.”\*

Kamala was extremely friendly not only with the eldest daughter of Brahmananda Keshub Chunder Sen, Maharani Sunity Devi, but also with the latter’s other brothers and sisters. Kamala also has left

us a brief account of their life at Dharmatola House in her Bengali Auto-biography. She writes :

“Our sons were admitted into the Presidency College and daughters into the Convent. Daughters learnt music from an English lady there. During these years our dear friends Karuna Chandra Sen and Sucharu Devi visited us frequently with their two sisters Manika and Dhani. They were entertained with songs, which they enjoyed immensely. The famous musician Satya Bhusan Gupta used to come to our house and regale us with songs up to late hours. I used to go to the Lily Cottage with my children who entertained the Sen family with music. Manika Devi was soon married to Professor Mahalanobis. We became more intimately connected with the family on account of this marriage. I often went to the Bharat-barshiya Brahma Somaj with my children to attend prayers.”

It was in the November of 1903 that Pramatha Nath resigned Government service, but this did not at all disturb the peace and happiness of the family. Kamala managed the household affairs so smoothly and efficiently that the inmates of the family could not perceive the change at all. They lived for one year more at the Dharmatola House.

## CHAPTER XII

### SETTLING AT RANCHI : BEFORE AND AFTER

*Four years more in Calcutta—Marriage of Sushama—Asoke and Alope sent to England for Higher Technical Studies—Kamala's Six Months' Stay in Baroda with some of her Children—Surama's Wedding—Settlement at Ranchi 1908—Pratima's marriage there—Return of Asoke—Asoke as 'Geologist to Tipperah State'—Pramatha Nath's Hobbies in Retirement.—Simple and Regular Habits—Education of Children—Premature Death of Asoke 7th April, 1912—Alope's Appointment as Government Metallurgist—Marriages of Purnima and Alope—Further Bereavements—Kamala's Social Work. Ranchi House a centre of Social and Cultural Activities—Letter of Maharani Sunity Devi—Pramatha Nath's Services recalled.*

In the previous chapter we had a glimpse of Pramatha Nath's wife Kamala and their children up till 1903 when he retired from Government service. From 1903 to 1908 Pramatha Nath was busy with his geological survey in the States of Mayurbhanj, Patiala and Rajpiplai as well as many other places from Kathiawar to Darjeeling. The discovery of Gurumahishani iron ores in early 1904, as we have seen, has been responsible for the Tata's



Asoke Bose



floating a company for Iron and Steel Works there. The great Swadeshi movement of Bengal, too, claimed much of his time and energy specially in connection with the foundation and building up of the Bengal Technical Institute and the materialisation of its industrial aspect.

Pramatha Nath's first daughter, Sushama, was married on the 15th August, 1904, to Dr. Prasanta Kumar Sen, the eminent Cambridge Scholar and Barrister. Prasanna Kumar Sen, father of Prasanta Kumar, was a staunch follower and disciple of Keshub Chunder Sen. The marriage was, therefore, performed according to the doctrine of the New Dispensation of the Brahma Samaj. The Rev. Pratap Chandra Majumder conducted the service with the help of Pandit Gour Gobinda Roy. This was the first Brahma marriage in the family. This also being the first ceremony in the house, Pramatha Nath invited all their relations even from outside Calcutta.\*

His eldest son Asoke was sent to Birmingham, England, the following September (1904) for studies in Mining and Geology. Pramatha Nath went to Darjeeling for prospecting work, and his family was also transferred there for some time. Next year in September, 1905, his second son Aloke went to England for higher scientific studies. It should be mentioned here that both the brothers obtained a Government scholarship of £150/- per annum. During the Puja holidays of 1905, Romesh Chandra Dutt took Kamala and some of the children to

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\* For details, please read "Reminiscences of my Father," by Sushama Sen.



Baroda, where he held the post of Revenue Minister. Pramatha Nath also went to Baroda for a while. The Bose family stayed with Mr. Dutt for six months. Kamala has left an account of their happy days in Baroda in her auto-biography. She was always practical. She got her two daughters, Surama and Pratima, admitted to the Industrial school, which was started for poor girls by her father. As a result the daughters of other high officials, who had hitherto abstained from joining the school, came to attend it in large numbers.

After their return the Bose family remained in Calcutta and their first grand-child, Sushanta, son of Sushama and Prasanta, was born during the memorable Congress sessions of 1906. Surama's wedding took place in 1907. She was married to Rajat Nath Ray, Barrister-at-law, who was a person of revolutionary leanings. Kamala went to live in her father's house at Bankura with her children, after the ceremony. Meanwhile Pramatha Nath was looking for a suitable place where he could settle down with his family. He thought of Darjeeling and Shillong but gave up the idea of settling in either because he wanted a place where the climate was such that he could live all the year round. From this point of view Ranchi appeared to him the most suitable.

Pramatha Nath purchased twenty-one bighas of land at Ranchi during the latter half of 1907. He started building a big house. Part of the family headed by Kamala went to Ranchi in March, 1908. As they were new-comers in Ranchi, they at first stayed at the house of Satyendra Nath Tagore for a

fortnight. His wife Jnanadanandini Devi and daughter Srimati Indira Devi Chaudhurani were staying there at the time. They were very hospitable to them. The Bose family went to their house after its partial completion. Meanwhile their third daughter Pratima's marriage with Brojendralal Mitter (better known as Sir B. L. Mitter) was settled. Thus the first ceremonial function in the Ranchi house was the wedding of Pratima with Brojendralal. Some old friends of Pramatha Nath and Kamala, Ganga Gobinda Gupta and his family and Suresh Chandra Sarkar and his family, helped a great deal in all the arrangements. The ceremony passed off smoothly.

Early next year their eldest son Asoke returned from England. He had a brilliant career at the Birmingham University, where he passed the B. Sc. with Honours in Mining and Geology. He got an appointment in Tipperah State as "Geologist." He had to stay most of the year in the State for Geological Survey. Their second son Alope who also had a brilliant career, came back some time after his brother.

With the large arable lands attached to his house, Pramatha Nath did not sit idle. One of his hobbies was gardening and he had ample scope for it in his Ranchi house. His children remember this hobby of his even to this day. Pramatha Nath wrote afterwards of this hobby in a philosophical vein :

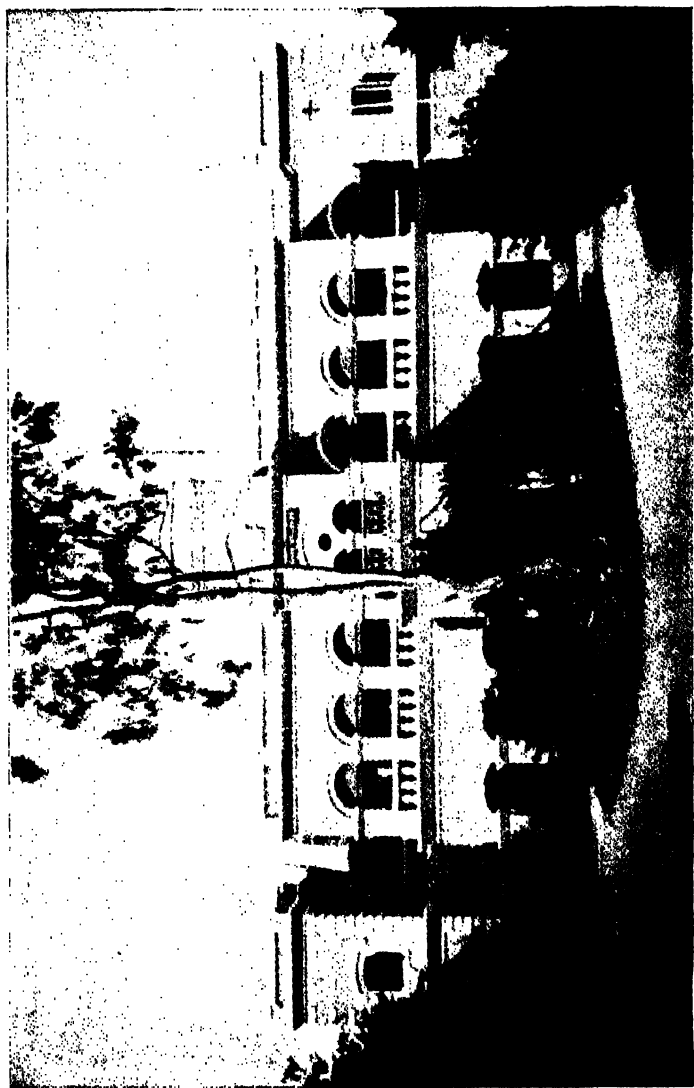
"For happiness it is advisable to have hobbies which, if not conducive to health, should at least not be injurious to it, and which are suited to the condi-

tions under which one is placed, so that they may be gratified without difficulty. They must, therefore, be varied as the conditions change. While I settled down here (Ranchi), farming was my main pastime. I grew most of the cereals, fruits and vegetables needed for our household, and maintained milch as well as draft cattle, and had a very pleasant time in the fields planning and supervising agricultural and horticultural operations."

Pramatha Nath spent most of his time in gardening in which he found great delight. He was once asked why he was given to gardening which fetched him far less return than prospecting. He answered with a smile, "An ounce of peace of mind is worth tons of gold." In fact, he was very proud of his orchard in which he grew delicious mangoes, lichis, pappas, bananas, pine-apples, custard apples and other fruits. Anyone who came to visit him, was given something from his garden. His hospitality was a byword among his friends and acquaintances. Pramatha Nath's hobbies changed with the advance of age. He writes :

"But with the advance of age (I am in my seventy-eighth year now) the energy needed for such supervision became attenuated, and I have had to abandon farming. A tank now occupies the place where the best paddy land was grown before. It gratifies a new hobby, that of bathing in it in the hot weather which, I must say, is very refreshing and enjoyable. But with the contraction of my outdoor life, I have had to seek for indoor pastimes, and one of these I have lighted upon is fiddling."

Pramatha Nath's motto was 'plain living and high thinking.' He was very temperate and regular



The Ranchi House



in his habits. He was punctual in his meals, and ate simple food. His food consisted chiefly of milk preparations of all kinds. He loved *dahi*, *sandesh*, *khoi*, *chcera* and other simple food. He was very fond of fruits of all varieties which he had in plenty in his garden. He was practically a vegetarian though he did take eggs and a few varieties of fish, such as *singhi* and *magur*. He did not believe in drugs and medicines. In his garden he had eucalyptus trees and many medicinal herbs. So when he needed any kind of medicine he would prepare it straight from the herbs he grew in the garden.\*

Pramatha Nath was always keen on his children's education. His youngest sons, Amarnath and Madhu, were admitted into the Ranchi Zilla School. There being no high schools, then for girls, he sent his daughters Purnima and Uma to Calcutta for education.

The first bereavement Kamala and Pramatha Nath had, was the death of Asoke on 7th April, 1912. He caught infection in the jungles of the Tipperah State and got high temperature. He had to be brought down to Calcutta for treatment, but died. Asoke's death was a heavy shock for Kamala. The calm serenity with which Pramatha Nath bore this calamity was an ennobling sight. Henceforward the life of Pramatha Nath and Kamala was intermingled with joy and sorrow but they calmly resigned themselves to God's will.

They had a large circle of friends and relations

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\* For further details, please see "Reminiscences of My Father", by Surama Sen.

who were aggrieved to hear the news. Miss M. Pigot, once Kamala's teacher and one of her best well-wishers, wrote two letters from "Rook's Nest," Darjeeling. The second of these letters, dated 13th April 1912, was as follows :

"Rooks' Nest,  
Darjeeling,  
13th April, 1912.

My Dearest Kamala,

Forgive me writing. I felt so stunned for my loved Aoke. Night and day my tears mingle with yours. I have tried to write, but at such a time words have no meaning. I must write only to say that day by day sorrow increases. I am praying for you and all the family. I feel a great gloom all round me. I cannot believe the young beautiful life has gone. You can never cease to suffer and no one feels more for you and the bereavement to us, a great affliction and unspeakable, is our loss. To God's support I am ever commending you. Your children are mine and I weep bitterly.

*Thy will be done.*

If thou shouldst call me to resign.

What most I prize, it ne'er was mine,

I only yield Thee what was thine.

Thy will be done.

Your loving,  
M. Pigot."

In the same year, 1912, their second son Aoke was appointed by the Central Government in the Metallurgical Inspectorate, Jamshedpur, as a Metallurgist under Dr. A. McWilliams. The marriage ceremony of Purnima with Amulya Chandra Bose was held in 1914, and that of Aoke with Santi Mitter,

daughter of Dr. Mrigendralal Mitter, was held in 1916. But the cruel hand of death took away Alope in 1918 when he was attacked with War-influenza. On receipt of the telegraphic news of Alope's death, Pramatha Nath was outwardly quite calm and advised Pratima, who was then living with him, not to break the news suddenly to her mother who was away from home then. Pramatha Nath and Kamala had suffered another bereavement the previous year in the death of Rajat Nath Roy, their second son-in-law.

But in spite of these bereavements, coming so soon one after another, both Pramatha Nath and Kamala continued to identify themselves with all the benevolent activities of Ranchi. Kamala was mainly responsible for starting a "Mahila Samity" (Women's Association). The main object of the Samity was to give instruction to needy women in sewing and other handicrafts. Exhibitions were held of these products. What was obtained from their sale was distributed amongst the helpless widows and poor women. Kamala also started a Middle English School for girls at Ranchi, named the Chota Nagpur Girls' School, with the help of Pramatha Nath and friends. She succeeded in raising it to a High English School afterwards. Kamala ran a U. P. Girls' School at a distant part of Ranchi town.

The Ranchi home of Pramatha Nath was an attraction to his friends, acquaintances and relations. Peace and happiness prevailed there, and everybody who visited them felt it abundantly. His children and grand-children crowded the "Ranchi Home" mostly during the long Puja vacations and



it was due to the encouragement and sometimes importunity of Pramatha Nath that they had to arrange performances of various dramas.

Theatrical shows became almost an annual function at Pramatha Nath's house at Ranchi. We hear of the getting up of Jyotiindra Nath Tagore's *Hile Biparit* and Rabindra Nath's *Bisharjan*, and also *Druva Charitra* and *Bhara! Mata* by his children and grand-children on different occasions. These performances were highly appreciated by the local public. Besides these annual theatrical shows, Pramatha Nath used to give a big party almost every Pujah inviting friends who had come from Calcutta, and also all his local friends.

The genial temperament of Kamala sweetened their hospitable Ranchi home all the more. Both Pramatha Nath and Kamala used to look after the happiness and conveniences of the visitors to Ranchi, whenever they came in contact with them. They were not rich but their cordial entertainment of the visitors was immeasurable. We shall refer to one occasion only where their visitor-friend had borne testimony to their cordiality in a letter. Maharani Sunity Devi of Cooch-Behar was an intimate friend of Kamala since their student-days at Miss Pigot's school. They kept up that friendship throughout their life. The Maharani went to Ranchi in 1918 just after the death of their second son. She was very much charmed with the amiability of the Boses and the peace that reigned, even then, in their house. After her return to Calcutta she wrote to Kamala :

“Dear Sister Kamala,

Your letters are just like you, and very pleasant reading. Even at the fag-end of life as I watch the fierce waves on the shores of the eternal sea and wait for the boat to carry me across, the memory of those affectionate days of our childhood rises in my mind brightening the weary life with a ray of hope and joy. Kamala, your heart, too, is broken. How a mother can live after the death of her dearest child, is scarcely believable, still we live, eat, sleep..

You have made Ranchi a place of solace and comfort for me. How sweet it was.

That lonely house stands in peace and amiableness. Your carefully nurtured affection gave daily sustenance to life. How grateful I am to you all.... My love for you. Give my Pranam to Mr. Bose.

Yours ever  
Sunity Devi.”

While in retirement at Ranchi, Pramatha Nath received considerable recognition from his countrymen. An ardent advocate of the study of Bengali language and literature, Pramatha Nath watched, with keen interest, the movement for its promotion and propagation started by the leaders of the Bangiya Sahitya Parishad. The Bangiya Sahitya Sammilani honoured itself by electing the eminent Geologist Pramatha Nath President of the Science Section at its ninth session which was held at Jessore on 8th and 9th Baisakh 1323 B.S. (21st and 22nd April, 1916.) The meeting of the Science Section was actually held in the morning of the 22nd April. Eminent scientists like Dr. P. C. Ray and Dr. Meghnad Saha were present. Pramatha Nath delivered his presidential address, its subject-matter being “सभ्यसमाजेर क्रम-विकाश” (“Evolution of the Civilised Society)”. His

learned address was highly appreciated by those present. Pramatha Nath also participated in the deliberations of the Conference. On the second day, 22nd April, he moved several resolutions, urging introduction of Bengali in the curriculum of higher studies in the Calcutta University.

The old hostile attitude of his villagers to Pramatha Nath had died down. They now began to appreciate his merits. Pramatha Nath was invited by them to preside over the fourth annual conference of the Kushadaha Samity, Gobardanga, 24 Parganas in April, 1921. In his presidential address he dealt with the rural problems and suggested remedies. Malaria ruined the villages. It was the first duty of the State and the people to drive this evil out of the rural area. Pramatha Nath again visited his village-home at Gaipur when the opening ceremony of a tube-well took place there in his name under the presidentship of his brother-in-law J. N. Gupta, I. C. S.

Pramatha Nath was given a cordial reception by the residents—officials, workers and people of Jamshedpur, where the Tata Iron and Steel Works has been located. He was brought down from Ranchi. In this work of reception Nagendra Nath Rakshit, General Manager of the Tatanagar Foundry, and Jagannath Agarwal, the industrial magnate, took a leading part. Pramatha Nath remained at Jamshedpur for four days. He personally saw and appreciated the partial realisation of the dream which he had been entertaining all his life. It was one of the biggest parties that ever took place at Jamshedpur.

Mr. Ardeshir Dalal, the Managing Director of the Tatas, was present on the occasion, and requested Pramatha Nath to speak a few words as to how he discovered the pig-iron ores. It was Pramatha Nath who really discovered the rich and huge store of iron in Singhbhum and Manbhum districts during his extensive travels over the mineral belts of India. Pramatha Nath very modestly said :

“The pig-iron ores were all there, I accidentally happened to be on the borders of Manbhum and Singhbhum districts during inspection work for the Maharaja of Mayurbhanj when I came across the colossal mountain of pig-iron ores. I would not really call it a discovery.”

Mr. Dalal commented on his discovery and remarked that Mr. Bose was too modest to take the credit. If this be not called discovery, Mr. Dalal did not know what was meant by the term discovery.\*

There were numerous other parties and assemblages held in honour of Pramatha Nath during his stay at Jamshedpur.

After settling at Ranchi Pramatha Nath used to read and write profusely. We have already had an idea of his thoughtful writings in the previous chapters. Besides gardening, reading and writing became his happiest pastime. The results of his deep study and thought were presented in book-forms. The congenial climate of Ranchi not only gave him long life, but was a source of country's good. He also identified himself with all the welfare activities of Ranchi and Chota Nagpur.

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\* For details, see Amarnath Bose's "Reminiscences".

## CHAPTER XIII

### AUTHOR AND PUBLICIST

*Literary Career—End of the First Period : Essays and Lectures—Contributor to Premier Journals—Epochs of Civilization—Illusions of New India—Booklets—Survival of Hindu Civilisation Part I (1918) and Part II (1921)—Turned a Publicist—National Education and Modern Progress—Open Letters to Mahatma Gandhi—Present-day Superstitions—Swaraj : Cultural and Political—“Reminiscences and Reflections of a Septuagenarian.”*

The literary career of Pramatha Nath Bose covered more than half a century. It may be divided roughly into two periods: (i) from 1880 to 1907 and (ii) from 1908 to 1934. We have already noted his literary achievements in the first period. During this period he contributed to Bengali monthlies and brought out some Bengali books. His *Essays and Lectures*, published for the first time in 1906, contains his casual writings covering almost the whole of this first period. From these writings we see that though Pramatha Nath was a strong advocate of applying modern scientific methods to industries for our economic progress, due to the evils of modern industrialism in the West Pramatha

Nath revised his opinion as may be seen from the following :

“Natural Science on its theoretical side has done most commendable work. It has created several new branches of Science, and widened and illumined others. On its practical side also, in medicine and surgery its effect has been to alleviate human misery. But the good thus conferred is confined to a comparatively insignificant fraction of humanity, and is far out-weighed by the evils wrought by the practical application of Physics and Chemistry. It is said that Archmedes was half ashamed of those wonderful inventions of his which were the admiration of his age. If modern science were more actuated by this ancient spirit, it had not lent its aid so largely to material progress, and had kept more within the bounds of intellectual culture and ethical development, we would have almost unqualified praise for it. But its mechanical applications, which form such a fertile theme for exuberant jubilation in the West, arouse in us only feelings of anxiety and apprehension.”\*

*Essays and Lectures* was published for the second time in 1917. Some of his former writings were left out and new ones added in this edition. Four Rectorial addresses, delivered before the alumni of the Bengal Technical Institute, have been included in it. These addresses show how his views on the uncontrolled application of Natural Science to big industries had changed and taken a definite shape.

The second period of Pramatha Nath's literary activities began with his retirement at Ranchi. It has been said that one of his hobbies there was reading and writing. But it was more than a hobby

\* Vide *Essays and Lectures*, pp. 271-2. Quoted from an article in *East and West* in 1902, by P. N. Bose.

with Pramatha Nath. He made it a mission of his life to communicate the ideas and principles, born of his extensive reading, serious thought and minute observance, to his countrymen for their good and happiness. And we find him writing papers on the different aspects of our national life and culture for the premier journals of the day. Pramatha Nath was a frequent contributor to *The Modern Review* of Calcutta, *The Indian Review* of Madras, *The Hindusthan Review*, first of Allahabad and subsequently of Patna, the *Calcutta Review*, *Prabuddha Bharat*, etc.

His articles dealt with political, social, cultural and economic topics—the Morley-Minto Reform Scheme, Village Self-Government, the Ravages of Malaria—everything claimed his attention. The root cause of the World War No. 1. was discussed by him in an article in *The Modern Review* (March, 1915) and formed a part of the brochure, *The Root Cause of the Great War* (1915). In it Pramatha Nath writes :

“But the greatest triumphs of modern science remain—the steam-engine, electrical telegraph, chemical manufactures, etc.....They have fostered Industrialism, Capitalism, Mammonism and Militarism, which are the four wheels of the gigantic Jagannath car of the goddess of modern culture which is being exultingly and wrecklessly drawn amid the huzzas of zealous votaries, punctuated by the pyrotechnic performances of howitzers, zeppelins, and submarines, crushing large numbers of the weak and the unwary wherever it passes on its triumphant but aimless march.” (Pp. 21-22)

Pramatha Nath further elucidates the point in the following lines :

“It is the industrial applications of Chemistry and Physics on such a gigantic scale, which are mainly answerable for the monumental military and predatory activities of the West. In the first place, there have resulted from these practical applications huge mills and factories but a fraction of the produce of which can be absorbed by Europe. Markets outside Europe must, therefore, be found for it, and markets in Western vocabulary have come to mean dependencies or spheres of influence.’ The scramble for such markets in Asia and Africa, have made international jealousies and rivalries in the Occident keener than ever before, and is unquestionably one of the most potent causes of the militarism of modern Europe. The Russo-Japanese war and the recent war of Italy with Turkey are entirely attribute to it. The titanic war which is now going on, is primarily due to the keen desire of Germany for Imperial expansion outside Europe.”\*

In the first important publication of this period, *Epochs of Civilization* (1913), Pramatha Nath, while indicating the three stages of civilization, both Oriental and Occidental, had dwelt upon the havoc that the triumphs of modern science played on humanity as a whole. They have forged fresh fetters for the weaker peoples. The big nations get involved periodically in fratricidal and suicidal wars for supremacy in the world markets and all nations are

\* P. N. Bose writes : Fifteen years ago, I wrote as follows in an article on “Western Science from an Eastern Standpoint” (published in the *Westminster Review*, Aug. 1901) : “The great wars of the future will be fought not for interests in Europe, but for interests outside Europe. The settled policy of the great powers is to partition Asia and Africa among them, and diplomatic and peaceful delimitation of spheres of influence will probably not be always practicable.” Subsequent events have fulfilled this prediction. (*The Root Cause of the Great War*, p. 31).



affected. What is the way out of this miserable state of things ? After discussing the three stages of civilization, Pramatha Nath has come to the following conclusions :

“The movements which we have just cursorily indicated evidence increasing intensity of the forces which operate for ethical and spiritual development. But they do not appear to be strong enough yet to counterbalance the forces which lead to material development. There is as yet no indication of the establishment of equilibrium between these two sets of forces...There has been considerable expansion of the spirit of freedom, but its aim hitherto has chiefly been to further political and economic activities, and to secure equality of opportunity in the struggle for animal existence. There has been great diffusion of knowledge pertaining to the macrocosm, but comparatively little of knowledge relating to the microcosm. There is much science but not much philosophy, much learning but not much wisdom. There is increased individuation. That man is an end in himself is fully recognised. But that end with the vast majority is the ignoble one of material satisfaction. The military and predatory spirit is still rampant ; material interests still outweigh the spiritual ; the outer life is still thought of more than the inner ; and egoism still prevails over altruism. The occidental has conquered the forces of Nature, only to be a slave of the forces which that conquest has created. His marvellous and manifold inventions, instead of lightening the struggle for existence, have tended rather to make it more acute, more prolonged, more widespread and more debasing, instead of facilitating the liberation of the soul have tended rather to tighten its fetters ; instead of diminishing the sum of human misery have tended rather to increase it ” (Pp. 326-8)

But Pramatha Nath did not overlook the brighter aspect of the principles of Natural Science. According to him, when the maturity and development of the third stage takes place, "the evil tendencies of Western industrialism would be repressed, but the foundation of international amity it has laid by bringing together all the races of the world would be strengthened and there would arise, broad-based upon it, a fabric of civilisation grander and more majestic than any the world has witnessed as yet." (P. 328)

A true patriot that he was, Pramatha Nath dealt with the ills we were suffering from, and which were awaiting immediate solution. But he strongly controverted the notions of the New Indians regarding intellectual, social, political, economic, educational and ethical progress for our common Motherland. As an earnest of these, he wrote 'The Greatest Illusion of the Present Age' in *The Modern Review* for October, 1914. His famous publication on the subject, *Illusions of New India*, came out early in 1916. He writes :

"Mother India is usually regarded by us, her Western-educated sons, as an invalid ; and it is considered to be a point of patriotism with the great majority of us to try to restore her to health by the assiduous application of various foreign remedies."

At first Pramatha Nath had not noticed any thing seriously wrong with her, but, later, he found her getting worse, and exhibiting symptoms of an alarming character. "This is no doubt due in part to the operation of a complication of causes." But, adds Pramatha Nath, "It is also in part attributable

to the injudicious application of unsuitable remedies.”

Pramatha Nath had unbounded faith in the destiny of our nation. And he remarked :

“But for these, Mother India would, I expect, be still as hale and hearty a dame as any might be expected to be at her age and the circumstances in which she is placed. She has, no doubt, long since passed the bloom, alertness and activity of her youth, but with them also the numerous snares and pitfalls to which youth is subject ; and the best proof of her vitality and recuperative capacity is the fact, that she has successfully withstood the ravages of time for untold centuries. She does not make such a brave show as several of her proud and powerful young sisters of the West. Nevertheless, in all her native simplicity she appears to me to be radiant with an ethereal beauty, and a calm, healthy, benignant expression which it should take the latter long to attain, if, indeed, they live long enough to attain it at all.” (Preface, p. IV).

Pramatha Nath's next booklets were *Give the People Back Their Own* (1917) and *The Economic Aspect of the Montagu-Chemsford Reform Scheme* (1918). The former was an open letter to the then Viceroy and Governor-General of India. He held the British rule responsible for the destruction of our ancient system of village self-government. It was therefore the first charge of the Government to restore it to its pristine glory. Pramatha Nath clearly envisaged the proposed *Panchayat* system in Free India. He wrote :

“Lest what I am saying be taken as the lucubrations of a recluse, I may say, that during the last thirty-six years of my life I have had to come into fairly close contact with all sections of our community from the

richest to the poorest, in the busiest cities of New India as well as in the wildest jungles of Old India, in almost every part of the Indian Empire from the Himalayas to the Cape Comorin and from the Indus valley and the Arabian Sea to the Iravati valley and the Gulf of Siam: I may thus, not without reason, lay some claim to practical acquaintance with the wants and aspirations of our people, with the results of the methods of administration, British as well as Indian, and with the influence of the civilizing agencies which British rule has introduced directly or indirectly. And, as the result of my experience, I can say confidently and unhesitatingly, that if there is any one measure which is calculated to be most conducive to the good of the multitude it is the restoration of their ancient right of self-government. It is possible, that if they had not been deprived of it, the beneficence of a strong, central administration, which the British Government are justly proud of having established, and for which the people were sincerely grateful, would not have been nullified, at least, to the extent it has been. . . . Apart from its being a just and graceful reparation of a grave injury it is expected to promote prosperity and allay discontent, disaffection and unrest, and to restore the vitality of an ancient people, and enable them to maintain the integrity and individuality of a culture, which has been an important factor of the progress of man in the past, and which may prove a not unimportant factor of his progress in the future." (*Give the People Back Their own*, pp. 43-5).

In the second pamphlet, Pramatha Nath discussed those measures proposed in the Montford Scheme of Reforms which affected the economic life of the country. The primary need of the people is food, more food. He writes :

“The economic problem is the most pressing and the most immediate of all the problems with which we are confronted today. More food, or more nourishing food is the most urgent need of ninety per cent. of our people. The Montagu-Chemsford Scheme not only does not hold out any prospect of their being able to obtain it, but, on the contrary, as it is likely to lead to largely increased taxation, it is calculated to add to the heavy load of their misery.” (*The Economic Aspect of the Montagu-Chelmsford Reform Scheme*, p. 29)

Pramatha Nath did not stop at finding out the defects of the Scheme. He wrote a book in 1918 in which he laid bare the real nature of the impoverishment of the Indian people. The chief causes of the impoverishment were also narrated in the book. As a remedy of this soul-killing impoverishment Pramatha Nath proposed two methods : the Positive Method and the Negative Method. We have had already occasion to refer to these two methods. Pramatha Nath elaborated his thesis later in 1933\* as the cure of unemployment in the country. The caption of the book, *Survival of Hindu Civilization*, shows that Pramatha Nath had immense faith in the future of the country and its civilization.

In the second part of the book, which was published in 1921, Pramatha Nath discusses our “Physical Degeneration—its Causes and Remedies.” According to him, the primary causes of our degeneration are : (1) unemployment, obstructed drainage

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\* “The Cure of Unemployment ; Positive and Negative” in *The Insurance and Finance Review* for November, 1933, Please see Appendix,



Aloke Bose.



and loss of mental harmony. The secondary causes are stated to be: (1) Drugs and (2) Wrong Diet and Wrong Hygiene. Remedies for these ills are sometimes adopted, but they are of little or no efficacy. Of these remedies Pramatha Nath discussed in the book only two, namely, (1) multiplication of medical men and (2) extension of primary education. But in his view remedies of a permanent nature should be immediately pursued, and in these both the State and the people should join hands. Pramatha Nath cites one salutary example by which we can help ourselves:

“The use of indigenous simples where necessary would not only benefit health directly, but also indirectly by ennobling our poorer middle class to save the money they now spend upon drugs and physicians and utilise it for wholesome nourishing food, a sad dearth of which is sapping their vitality. The march of science has brought in its train a host of specialists a good share of whose maintenance falls upon them. The practice of splitting fees between the ordinary and the consulting physician which obtains in some countries in the West, has, so far as I am aware, not yet been introduced into India. But there are, I believe, physicians who have their proteges, and they naturally try to help one another. And what with the ordinary and the consulting physician, the blood examiner, the bacteriologist, the urine examiner and the resources of the poorer gentry are greatly taxed. Not only so. Failing Allopathy, they often have recourse to Homeopathy or Kabiraji or both, and thus many are greatly embarrassed and not a few involved in debt.” (Pp. 176-7)

Our national movement came to a head in 1920. Since the launching of the Non-Co-Operation



movement, various problems, vitally affecting the people, were discussed on the platform and in the Press. Pramatha Nath also joined in this discussion. Since Swadeshi days national education was his main interest and he started writing on this aspect of the new movement. From 1920 onwards Pramatha Nath began to write for the papers on burning topics of the day. He contributed a series of articles to the *Amrita Bazar Patrika* from September 1920 to March 1921 on National Education. These were incorporated in his book, *National Education and Modern Progress* in 1921. Pramatha Nath held very definite views on 'national education' the end of which was, according to him, 'national culture.' Pramatha Nath writes :

"I should here explain what I understand by national education in India with culture as its primary end. I do not like the adjective 'national' It is suggestive of the vicious creed of 'nationalism' which is assiduously taught in the western world of the present day—"that the maintenance of the State is superior to every moral rule." Just as a man naturally looks after the well-being of his family before that of his neighbours, so does he naturally regard the interests of his community before those of other communities. The aim of culture should be not to develop and apotheotize such impulses but to curb, guide and elevate them, not to feed and foster instincts which are reminiscent of our brute-ancestry but to check, moderate and if need be, even suppress them, not to nourish selfishness and egoism but to promote selflessness and altruism. Such culture should be universal not national. I would therefore prefer the expression 'Education on Indian Principles' to 'National Education'." (P. 21)

Pramatha Nath elaborates his point in these lines :

“The salvation of civilised society now lies in going back to the fundamental principles of ancient, especially Hindu culture that would foster and promote goodwill and concord instead of ill-will and discord, rural life and cottage industry instead of urban life and mill industry, self-abnegation and altruism instead of self-indulgence and egoism, peace of mind and serenity instead of worry and restlessness, health and happiness instead of disease and misery.” (P. 73)

And for the proper inculcation of these principles Pramatha Nath suggested formation of self-contained educational settlements, ‘meeting its wants : by agriculture and cottage industry, the harder work, such as ploughing, digging, etc., being apportioned to its male members, and the lighter, such as spinning, weaving to female members.’

In the mid-twenties just after the hey-day of Non-Co-Operation, such questions as Hindu-Moslem unity, removal of untouchability, temperance and hand-spinning and hand-weaving were uppermost in the minds of our leaders. Pramatha Nath appreciated the full significance of these subjects. But to give them a political bias, said he, would strike at the root of our nationality. Pramatha Nath envisaged this possibility and, in the form of seventeen open letters to Mahatma Gandhi, under the caption “Swaraj” in the *Amrita Bazar Patrika* (1925) warned his countrymen against laying so much stress on them for political ends. In his opinion, the greatest need of the people was the attainment of economic Swaraj, to which all our endeavours should have

been directed. Pramatha Nath vehemently criticised the Hindu-Moslem Pact, popularly known as the Bengal Pact, sponsored by Deshabandhu C. R. Das.

Pramatha Nath again wrote a book in 1927 on *Some Present-day Superstitions*, in which he asked the Neo-Indians to discard their fashionable notions, born out of Western contact, regarding the means of the progress of our Motherland. He called these outlandish notions superstitions. These were : (i) the Superstition of Natural Science, (ii) the Superstition of Equality in the West, (iii) the Superstition of Equality in India, (iv) The Political Superstition, (v) the Drug Superstition, (vi) the Education Superstition and, (vii) the Progress Superstition. Pramatha Nath explained the nature of these superstitions, which had blinded our eyes to the real state of things and pointed out the appropriate methods to be adopted for the national welfare. He wrote :

“If Hindu civilization is to survive at all, it should survive as a distinct entity. It has been an important factor of the advancement of humanity in the past, and may yet prove a not unimportant factor of such advancement in the future. Attempts at so-called synthesis would only convert it into a non-descript mongrel variety of Western civilization without the compensating (though taking abroad view, dubious) advantage which the Westerns have of exploiting the weaker peoples of the globe. English education has, no doubt, converted and will continue to convert a small number of Indians, into, in the words of Macaulay, ‘a class of persons Indian in blood and colour but English in tastes, in opinions, in morals, and in intellect,’ but it cannot make them as a body English in those qualities of action—firmness, doggedness and combativeness—which have resulted

from the action of climatic and other causes during thousands of years. It would be futile to attempt the conversion of the mass of the Hindus into a military, industrial and predatory people like the Western. Civilization is an organic growth, and like all other such growths it is impossible to effect any considerable change in it after it has attained maturity and consequent rigidity and individuality." (Pp. 258-9)

In *Swaraj—Cultural and Political* (1929), Pramatha Nath has elucidated the ideals propounded in the above lines. It was a production of mature thought and experience, and regarded by his compatriots as his last will and testament. Pramatha Nath brought home to them pertinently that the real Swaraj could be attained by pursuing methods based on Indian culture. It was here that different races, communities and creeds met one another on an equal footing and with a common heritage. Political concessions and privileges conferred on one would drive the other into a hostile camp. But if we imbibed the spirit of benevolence, tolerance and regard for truth—the eternal teachings of Indian culture, amity, instead of enmity, would prevail. This would be a blessing for the Westerns as well. Pramatha Nath writes :

"It is the propagation of ancient culture, which is at present best represented by Indian culture, that can rescue humanity from the morass of militarism, malevolence, greed, selfishness, destitution, disease, and vice in which it has of late been sinking more and more deeply. The principles which underlie it—renunciation and universal all-embracing benevolence—are among the eternal verities. They hold good today as they did some three or four thousand years ago when they were formulated and preached in India

and China. Not that the mass of the people should renounce the world ; and it is not desirable that they should do so, but the noble examples of ascetic saints serve as an inspiration to them in observing the discipline of simple living and selflessness in a way which no amount of preaching would do. And without simple life and self-abnegation genuine altruism is not possible." (Pp. 275-6)

To the *Amrita Bazar Patrika* (1932-34) Pramatha Nath contributed a series of articles on "The Reminiscences and Reflections of a S. parajivanam." In these articles he not only depicted the memorable events and incidents of his life, but also gave his considered views on some important problems and topics of the day that required search and clarification. Modern industrialism, unreliability, communalism, unemployment, coloured population—these were some of the subjects dealt with in them. As a public man it may be justly said that Pramatha Nath died in harness, because his last article in the series was published after his death. Service of the Motherland was the mission of his life, and his pen was wielded in her cause to the last.

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## CHAPTER XIV

### PUBLIC LIFE AT RANCHI

*Local Cultural and Social Associations—Ranchi Brahmacharya Vidyalaya—Suggestion for an Educational Settlement—Chota Nagpur Gorakshini O Jati Sudhar Sabha—Further Activities re Brahmacharya Vidyalaya—Movement for a Central Cultural Organisation—Ranchi Co-operative Society—the Weavers' Co-operative Stores.*

Pramatha Nath identified himself with the cultural and social associations of Ranchi and Chota Nagpur. He was connected with the Ranchi Charitable Society from its inception in 1910 and was its president, guiding spirit and regular subscriber. The other two prominent public bodies of Ranchi that claimed his attention were the Ranchi United Club and the Ranchi Public Library, both housed in the same building. He took keen interest in the welfare of both the institutions and was long associated with them. Another public institution of Ranchi with which he was closely connected, was the Indian Mental Hospital. Pramatha Nath was a kind, sympathetic and regular visitor of the hospital.

Pramatha Nath's relation with the Ranchi Brahmacharya Vidyalaya with whose ideals he identified himself was most intimate. The Vidyalaya was started in 1917 at Damodar, Asansol in the Burdwan district. It was transferred to Ranchi in

1918, and Pramatha Nath was connected with it since it was established there. As an enthusiastic member of its Managing Committee, he spared no pains to develop the institution and wrote about it in the papers and in books, introducing it to the public thereby. From his writings, we can form an idea not only of the Vidyalaya, but also of his share in its development. According to Pramatha Nath,

“The idea of the (Brahmacharya) Vidyalaya originated with Swami Jogananda who, with a colleague Swami Dhirananda, has of late been doing such excellent work by way of the propagation of Indian culture in America. The idea, however, could not have materialised but for the large-hearted and open-handed munificence of that living embodiment of Indian culture, the Rishi Maharaja Sir Manindra Chandra Nandy of Kasimbazar.”

Swami Jogananda Giri had some other worthy colleagues and associates, the most prominent of whom were Swami Satyananda Giri and Ananda Mohan Lahiri. Pramatha Nath later wrote of the Vidyalaya :

“I have had the privilege of being connected with it since it came to Ranchi, and it gives me great pleasure to testify to the admirable work which it has been doing under the noble guidance of a noble band of self-sacrificing, devoted, educational missionaries headed by the venerable Swami Satyananda Giri.... The motto *mens sana in corpore sano* (healthy mind in a healthy body) might well be inscribed on its portals.

“I have been an advocate for over two decades of the Brahmacharya system followed by this institution not because it is national, but because it is a system which would be beneficial to the whole world.”

It will not be out of place to have a brief account of the Ranchi Brahmacharya Vidyalaya, with which Pramatha Nath was so closely connected. Pramatha Nath himself has left us this account. He begins by paying a handsome tribute to the Rishi Maharaja of Kasimbazar :

“I have no pleasanter reminiscences of the men I have met than those of Maharaja Manindra Chandra Nandy. Living the simple, austere spotless life of a Rishi, he considered himself a trustee, as it were of the vast wealth he inherited. His munificence was unbounded. And I do not know of any worthier object on which it was bestowed than the Ranchi Brahmacharya Vidyalaya established fifteen years ago.

“Having regard to the present environment, they are trained so as to qualify themselves for the University Matriculation as well as for various Sanskrit examinations. They are also afforded opportunities for higher studies in philosophy, economics, etc. Their daily routine includes asanas, mudra, gymnastic, drill, etc.. The practical classes include spinning, weaving, tailoring, soap-making, carpentry, carpet-making and gardening. A charitable dispensary maintained by the Vidyalaya, besides giving relief to hundreds of patients, affords opportunities for humanitarian service to the boys. There are also ways in which service is encouraged.”

Pramatha Nath further continues :

“The diet of the boys has been regulated by the advice of the late Rai Bahadur Dr. Chunilal Bose who was a member of the Managing Board of the Vidyalaya and a large-hearted philanthropist that he was, he used to take keen interest in it.”

About the ex-students, he also writes :

“The ex-students who generally keep close connection with the Vidyalaya have formed an association



to work out its ideals. Some have become its workers. Some have gone to Europe for higher studies and some are leading independent lives.”\*

Towards the end of the twenties, the scope of the Brahmacharya Vidyalyaya was widened, and it became a centre of the cultural movement, of which Pramatha Nath Bose was a principal promoter, but of this later.

National Education formed a principal item of the Non-Co-Operation Movement launched by Mahatma Gandhi. The cultural conquest of the West was more harmful than our political dependence.

So patriots like Pramatha Nath turned their attention to National Education. He contributed a series of articles to the *Anvita Bazar Patrika* between September 1920 and March 1921 on this all-important subject. In the latter year he got them published in book-form. In these articles Pramatha Nath controverted the current belief that the salvation of India lay in the blending of Eastern and Western cultures. He suggested the establishment of an educational colony or settlement, where students would be trained in national culture, education and self-help. His ideas were expressed in the following lines :

“There were extensive jungles in Native States at some distance from railway far from the ‘crowd’s ignoble strife’ and the devitalising and demoralising influence of modern civilization. If, to begin with, one of these were taken and developed, model educational institutions on Indian principle could be started

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\* “Reminiscence and Reflections of a Septuagenarian (XIV)—  
*Anvita Bazar Patrika*, December 25, 1932

there. The settlement should be self-contained, meeting its wants by agriculture and cottage industry, the harder work, such as ploughing, digging, etc., being appointed to its male members, and the lighter, such as spinning, weaving, etc., to female members. If a title of the expenditure incurred on the Hindu University were devoted to the formation and development of a settlement like this, it would have served better as a nucleus for the dissemination of genuine Hindu culture. Suitable modifications in the courses of study would meet the requirements of our Mohammedan brethren."

Dr. Matha Nath formulated the following tentative scheme of a rural education settlement :

1. An area of at least thirty square miles, to begin with, should be taken for an education settlement.

2. A certain portion of the land is to be set apart for the common requirements of the settlement—a dairy farm, and the cultivation of cereals, pulses, cotton, etc.

3. Detached cottages, each large enough to accommodate at least ten scholars, are to be built for the Professors and their families (if any). Each cottage should have sufficient land attached to it for a kitchen garden and an orchard which so far as possible, should be developed by the Professors with the help of their pupils.

4. The Professors, the establishment needed for the settlement, and the scholars are to be fed and clothed from the produce of the settlement so far as practicable. The Professors and the settlement staff should, besides, each have a little pocket money.

5. Each donor would have the right to nominate a pupil for every Rs. 5,000 contributed by him. An annual subscriber would also have the same right for every Rs. 500 subscribed by him.

6. All purely educational matters, such as courses of study, examinations &c. are to be settled by a committee composed of all the Professors.

6. The management of the business side of the settlement is to be vested in a committee consisting of some members of the Executive Committee of the Council and some of the Professors.

8. The Professors appointed should be such as would be able to inculcate in the pupils the basic principles of Hindu culture—renunciation, altruism, and mental harmony—by suitable daily practices and duties.

9. The courses of study would depend upon the Professors available on the conditions mentioned above. So far as practicable, they should include sociology, biology, geology, classics, philosophy, mathematics, &c.”

The scheme was forwarded to individual educationists and educational authorities, in due course. Pramatha Nath was particularly in communication with Pramatha Nath Mukhopadhyaya, the great-Indian Tantric Savant of to-day, then closely associated with the National Council of Education. In a book on *National Education* Mukhopadhyaya suggested the establishment of rural educational centres or settlements on national lines. Pramatha Nath's scheme was originally of the same nature, and he received hearty response from the latter. Pramatha Nath therefore forwarded his scheme to the authorities of the National Council of Education, Bengal, for favourable consideration. Sir Rash Behari Ghose's legacy was available, and it was thought that the National Council might set apart funds for giving the scheme a fair trial. But Pramatha Nath's expectations were smashed by the following letter

to Hirendra Nath Dutt, Secretary to the National Council of Education, wrote to him from Kalimpong on 24th October 1921 :

“My dear Mr. Bose,

I am spending my Puja vacation here, when your letter of the 18th has reached me. I expect to return to Calcutta by the 10th November, after which I shall take steps to place your scheme of Educational settlement before the Executive Committee. The scheme is certainly worth giving a fair trial but from the very nature of the experiment it will require years for its success and a considerable outlay.

The National Council cannot for the next 3 or 4 years set apart any funds to finance your scheme, as we have to spend a lot for building laboratories, workshops, hostels, &c., on the new site at Jadavpur (Bengal) which we have acquired.

Hoping this finds all well with you ;

Yours sincerely,

H N. Dutt.”

Pramatha Nath was closely associated with another movement which sought for the improvement of the aborigines and other people of the Chota Nagpur division. This movement came in the wake of the great Non-Co-Operation. It was started about 1923. According to Pramatha Nath.

This movement ‘is almost unique not only in this province, but probably in the whole of India. Mundas and Oraons have joined hands with Mahomedans, Christians, and Hindus of the so-called ‘lower’ castes, such as Telis, Kahars, Kurmis, &c., for their own betterment and that of their country. There are two characteristically distinctive and highly commendable features of the movement. One is that the impulse had come from within, the lead being taken by such men as our energetic secretary, Theble Oraon

(later, M.P.), Premnath Mahto of Silli, Mangal Mahato of Bundu, Suleman Bajra of Taiman, &c. We of the intelligentsia class are here only to co-operate with them and guide and help them. The other feature which distinguishes it from other reform movements of which the number is legion now-a-days, is that devoid of the modern superstition of equality it does not antagonise the classes, the Brahmins and non-Brahmins, the so-called high castes and low castes, &c., but promotes concord and harmony among all the classes."

The movement from the beginning was conducted by an association, called the Chota Nagpur Gorakshini and Jati Sudhar Sabha (the Chota Nagpur Society for cow-protection and Social Reform). Besides cow-protection, its objects were the promotion of temperance, settlement of disputes by arbitration instead of law-courts, and the resuscitation of indigenous industries. Meetings were held all over Chota Nagpur, particularly amongst the aborigines, and a great response was obtained from them. The four-point programme was vigorously pursued and within four years of its start, great improvement was effected in each direction. A Conference of the local people of Chota Nagpur was held at Ranchi under the auspices of the Sabha in 1928, over which Maharaja Manindra Chandra Nandy presided. The teachers of the Brahmacharya Vidyalaya took a leading part in this conference. Pramatha Nath Bose, an earnest supporter and an ardent associate of the movement, was the Chairman of the Reception Committee. In his address he chiefly narrated the activities of the Sabha during these years. He summed up his address thus:

“The task which this Society has set itself to perform is a very difficult one. . . . The Tana Bhagats of this district show what the results of the fruition of our efforts and our aspirations is likely to be. They eschew not only beef, but I believe, all flesh food, and are total abstainers. In these respects, though Oraons by birth they are better Hindus than many who profess to be such not excepting even Brahmins. They spin their own yarn for their textile requirements and do not frequent the law-courts. In short, they have carried out all the reforms which this Society has in view, and barring a few cranks, they have, from all accounts, become highly prosperous.

“Brethren, we must all endeavour to work out our salvation by our own efforts. If the members of the Chota Nagpur Gorakshini and Jati Sudhar Sabha earnestly carry out the resolutions which are passed at their meetings and conferences, and if they, the Mundas, Oraons, so-called low-caste Hindus, Mahomedans and Christians continue to meet and work together in fraternal spirit for the common good of their country as they are doing now they would set a noble example for manly self-help and beneficent inter-communal amity to the rest of India.”

The Chota Nagpur Society was in existence for over five years when Pramatha Nath wrote his book, *Swaraj—Cultural and Political*. He noticed in this book (1929) that no less than sixty meetings were held in its fifth year in different parts of Ranchi, Manbhum, Palamau, Singbhum and Hazaribagh districts under the auspices of the Society. As a result of the propaganda for cow-protection, breeding bulls were secured for breeding in various places and large numbers of aborigines and others had given up beef. A tangible result of the movement was reported to be that milk was slightly cheaper,

at places than before. There was a considerable lessening of the drink-evil which was the greatest curse of Chota Nagpur. This was mainly attributable to the energetic propaganda carried on by the Chota Nagpur Reform Association. Weaving was the most important industry in Chota Nagpur. There were a large number of weavers there. The Ranchi Co-operative Central Bank, and the Ranchi Weavers' Stores with the latter of which Pramatha Nath was connected, by introducing the improved fly shuttle looms considerably increased their productions and outlook.

The four-point programme, pursued by the Sabha amongst the people of Chota Nagpur with considerable success, convinced Pramatha Nath of the possibility of the revival of cultural Swaraj in the country. But as a basis of the cultural Swaraj, he pleaded for the complete overhaul of the present system of education, which not only benefited the rulers, but also served to cripple Indian culture and thought effective for the emasculation of the people of this country. He held very strongly that the destiny of India in recent times was decided not so much by the result of the battle between Serajudoula and Clive in 1757, as by that of the battle between the Orientalists and the Anglicists in 1835. It had loosened the strong bond of cultural affinity and amity which had held together the heterogeneous elements of the Indian nation. It had also been fruitful of mischief in various other ways.

An opportunity soon arose for Pramatha Nath to work for the realisation of his ideas. At

the annual general meeting of the Ranchi Brahmacharya Vidyalaya, held on 17th February 1928, Pramatha Nath gave an address before the gentlemen present, in which he emphasised the necessity of establishing a central organisation for propagating and popularising the Brahmacharya principle of education amongst the people. This organisation would also serve as co-ordinating authority between those institutions which had been already started on the same principle. A provisional sub-committee was formed with Maharaja Manindra Chandra Nandy as Chairman. Pramatha Nath Bose and Kumar-krishna Dutta were amongst the enthusiastic members of the Committee. Meetings of the sub-committee were held and a questionnaire was prepared and issued on the subject to prominent educationists and public men. In reply to the questionnaire Pramatha Nath gave his considered views on the urgent need of such a central organisation, and the scope of its work on the basis of Indian culture. In his *Swaraj—Cultural and Political*, he had already suggested the formation of a central organisation under some such title as 'Society for Promotion of Cultural Swaraj', as he thought, it would add considerably to the strength, solidarity and usefulness of the existing institutions. He wrote in the Puja Special of the *Amrita Bazar Patrika* (1929) :

“A Central Organisation would enable the protagonists of Indian culture to meet, exchange views, discuss programmes of work, settle plans of operations and present a bold and united front to the disrupting and disintegrating forces of Western Culture. The annually increasing militant and aggressive attitude



of their antagonists renders it imperative. We are coming upon times when it is necessary that they should overcome their natural predilection for quiet, silent work."

Pramatha Nath held that the first duty of the organisation would be to work for the expansion of institutions like the Visva-Bharati of Santiniketan, the Brahmacharya Vidyalaya of Ranchi, and the Ramakrishna Mission Vidyapith of Deoghar. He personally sought for the opinion of prominent educationists, politicians and leaders of thought and culture. In the light of the criticisms he received, Pramatha Nath contributed another article to the *Patrika*, Dec. 30, 1929. Meanwhile the proposed Society was formed in Calcutta, with Bidhu Bhushan Dutta as its organising secretary. Pramatha Nath referred to this Society and its organ *Bharater Sadhana*, in the article as follows:

"A good beginning has already been made in this direction. A Society called 'Bharater Sadhanamulak Siksha Parishad' (Society for the Promotion of Education based upon Indian Culture) has been started in Calcutta with an excellent monthly organ entitled 'Bharater Sadhana'. What I propose is to raise it to the status of an all-India society so that it may afford a platform where workers on the same lines from other parts of India may meet, exchange views and settle programmes of work. In fact, it would do for cultural Swaraj what the Indian National Congress does for Political Swaraj."

Pramatha Nath presided over a Conference organised under the auspices of this Samsad in Calcutta, on 14th December, 1930. He delivered an inspiring address, in which he fervently asked his

countrymen to follow the path chalked out by the Samsad for the spread of Indian culture on which our education should be based. By 1931 the Samsad lost two of its stalwarts—Maharaja Manindra Chandra Nandy and Kumarkrishna Dutta. But the latter had arranged a gift of extensive lands near Deoghar for the Brahmacharya Samgha of Ranchi. Pramatha Nath found in this arrangement a partial fulfilment of his scheme of 1921. The objects of the Samsad were also to be realised to some extent. Needless to add, he had a large share in finalising this transaction. Pramatha Nath writes :

“This Vidyalaya for its expansion and for a suitable outlet for its ex-students was long in search of a plot of land where an educational colony self-supported mainly by agriculture and industry could be established and where the youthful student workers leading a life of plain living and high thinking could work in co-operation with the surrounding villages. This long-felt desideratum has now been fulfilled. S. J. Asimkrishna Dutta and S. J. Atulkrishna Dutta, sons of the late Babu Kumarkrishna Dutta have made a deed of gift of Kushma Mouja near Deoghar measuring about three hundred acres of land with its forest, hill, buildings, gardens and other valuable assets to the Brahmacharya Samgha (registered under Act XXI of 1860), of which the Ranchi Brahmacharya Vidyalaya is the central institution. Kumarkrishna Dutta, whom I had the pleasure of knowing for a long time as a most enthusiastic worker in the cause of education on the lines of Indian culture spent a good portion of his energy and fortune in making Kushma a suitable place for such education. It has undoubtedly got vast possibilities, and two of the veteran workers of the Vidyalaya with its ex-student Brahmachari

Santananda as the head, have been deputed to develop it under the name of Amiya Asram.”\*

Sasibhushan Ghosh, M.A., one of the veteran workers of the Brahmacharya Vidyalaya, visited this place regularly and rendered valuable guidance. Selfless workers, such as Nalini M. Majumder and others, used to visit this Asram and lend their service in the shape of physical labour—to build cottages, plough fields, etc., in order to set examples before the students.

Pramatha Nath was intimately connected with all the activities of the Vidyalaya till the end of his life. He was the friend, philosopher and guide of the teachers and students alike.

\* “Reflections and Reminiscences of a Septuagenarian”—*Amrita Basar Patrica*, December 25, 1932

## CHAPTER XV

### THE PASSING AWAY

*Last Days—Funeral Procession—Amrita Bazar Patrika's Condolence—Letters of Condolence from Far and Near—Letters from Brahmacharya Vidyalyaya, the Ranchi Charitable Society and the Indian Mental Hospital.*

Simple and regular habits made Pramatha Nath live long. He seldom suffered from any disease. So his death even at the age of seventy-nine came as a shock to many of his relations and friends. Early in April 1934 his wife Kamala was attacked with pneumonia. Amongst their sons and daughters, Sushama, Surama and Amarnath were away in Europe. Pratima was in Delhi, Uma in Noakhali, and Madhu the youngest son in Calcutta. Pramatha Nath's fourth daughter Purnima was then at Jamshedpur, where her husband Amulya Chandra Bose was working as Chief Fuel Engineer of the Tata Iron and Steel Works. On receipt of a wire from Pramatha Nath Purnima went to Ranchi. She found her mother down with pneumonia. Her condition caused anxiety, as she had a weak heart but she became better after a week. Purnima was leaving for

Jamshedpur, when she found to her surprise that her father had got a very high fever.

She, however, postponed her departure and induced her father to take to his bed immediately. She found his temperature very high. He also had slight difficulty of breathing.

Much to Pramatha Nath's annoyance the doctor was sent for. It should be mentioned here that Pramatha Nath never believed in calling a doctor for himself and was against taking medicines. He had all along a wonderful constitution, and nobody had found him sick in bed. Very few could boast of such good health at his age. He was still active, hale and hearty until his last illness. The cause of his keeping so fit was partly due to his regular habits. He was very particular about his diet and often gave the inmates of his family advice about the kind of diet they should have. Even when he was ill in bed he would have long talks with the doctor on diet and medicines.

On the third and fourth day his illness took a better turn and visitors were allowed to see him in his room. He received every body gladly and with a smile. Even in his illness Pramatha Nath never forgot to instruct his servant to give some fruits and vegetables from his garden to his friends and visitors.

On the fifth day, Pramatha Nath's illness suddenly took a bad turn and both his lungs were affected and the doctors were very much concerned. Purnima was all the time by his bedside. She asked him if he would like to write and ask any of his relatives to come in order to

keep him company, but he just laughed it out and said, "It is not necessary, I will soon get well." He even said, "I will complete my eightieth birthday on the 12th of May and will have a grand celebration." Little did one think that those were his last words. The ever-devoted Kamala, who was still weak, sat by his bedside day and night to give relief. Trunk calls were given and wires sent to all his relatives. Uma, Madhu, Asis (his grandson), Prasanta K. Sen, Amulya Bose (son-in-law), Amiya Bose (brother), Nut Behari Mitra and Profulla Mitra (nephews) all arrived, but alas too late. In spite of the best of medical attendance and nursing, in the early hours of the 27th of April Pramatha Nath passed away peacefully. It could be easily perceived what a heavy shock it was for Kamala who lay prostrated with grief. Visitors poured in since morning to have a last look at their dearly loved one. Peace and silence reigned in that chamber of death filled with flowers all around.

As the funeral procession started, the boys of the Brahmacharya Vidyalaya sang *Kirtans* all the way to the banks of the Subarnarekha where the last rites were performed. The Hindus, Mahomedans, Sikhs, Parsees all joined in the funeral procession with bent heads in reverence. So deep was the sympathy of the people at Ranchi that most of the shops and institutions were closed.

The news spread soon far and near. Newspapers came out with long accounts of Pramatha Nath's life, and with editorials in which his achievements were recalled. The *Amrita Bazar Patrika* mourned his death in these lines on 28th April, 1934:

“The death of Mr. Pramatha Nath Bose which took place on Friday at Ranchi removes one of the eminent Bengalees who belonged to the last generation and saw much of the present. He was one of the most brilliant students of science of the Calcutta University and won high academic distinctions in England as a student of Geology. He joined the Geological Survey of India and soon made his mark there as an able and erudite officer. As has often been the fate of many Indians, he was superseded by a European officer which compelled him to resign from service. During the tenure of his service and even after that Mr. Bose travelled widely in India and was connected in one way or other with many a geological concern. The iron mine at Jamshedpur was one of his discoveries and of all persons the Tatas should for ever remain grateful to him.

“In 1908 Mr. Bose went to Ranchi after retiring from service and began to live the life practically of a recluse devoting himself to study and contemplation. Though he was about eighty years of age he possessed the energy and vigour of a young man and his life was a model of regularity and precision. It was at Ranchi that he wrote most of his remarkable books which evoked the admiration of many because of the breadth of vision and range of scholarship they displayed. Mr. Bose's relation with the *Patrika* and its editor were very cordial. Besides a large number of articles already published in the *Amrita Bazar Patrika*, he was writing in the columns of this paper a series of articles under the caption ‘Reminiscences and Reflections of a Septuagenarian,’ the last instalment of which, probably his last unpublished manuscript, is still lying with us.

“Mr. Bose was thoroughly unostentatious, generous to a degree, extremely courteous to all and above all a sincere patriot and a doughty champion of India's

cultural Swaraj. It is interesting to observe that at one time he was a *pucca* Sahib and blind admirer of everything Western. But gradually the awakening came and the *pucca* Sahib became an Indian in the truest sense of the term. It was a maxim with him that if India was to attain real freedom, she must follow the great culture evolved by the Rishis of old and what he believed he not only preached but translated into practice himself.

"The deceased leaves behind two sons, five daughters, four distinguished sons-in-law and a number of grand-children and great-grand-children. We offer our deepest sympathy and condolence to the bereaved family. May the soul of the deceased rest in peace."

While publishing Pramatha Nath's last article in the series, 'Reminiscences and Reflections of a Septuagenarian', "Terrorism : its Cause and Cure" (Chapter XXVI) on 29th April 1934, just two days after his death, the *Patrika* again wrote editorially :

"A melancholy interest attached to the article which is published today. It was received by us only few days before the unexpected news of his death reached us. A deep thinker, a consummate scholar and a man of considerable experience the late Pramatha Nath Bose combined in him the analytical faculty of the scientist with the meditative mood of the philosopher. His tender solicitude for our National culture and civilization found full expression in *The Illusions of New India* and he explained with the enthusiasm born of belief the 'sublime standard of altruistic morality' which prevailed among the Hindus and insisted upon 'a rigorous course of discipline'."

Kamala received innumerable letters from relations, friends and public men. The one from the Acharya of the Brahmacharya Vidyalaya, dated 3rd May, 1934, is given below :



“After Salutation of Narayana. In the death of Pramatha Nath Bose, a good son of the country, who was most revered and respected by us and was the guardian and friend of the Brahmacharya Vidyalaya, has given us a shock as would the death of a very near relation. No words are sufficient to express our irreparable loss and grief. May his soul rest in peace in heaven.” (*Translated from Bengali.*)

The following extracts from the letter of the Secretary of the Ranchi Charitable Society to Kamala (1st June, 1934) shows Pramatha Nath's long and intimate connection with the Society :

“Mr. P. N. Bose was connected with this institution since almost its foundation in the year 1910 and it is in the fitness of things that his name should continue to be associated with this institution, and with this idea in view and subject to your approval I propose to continue his name in our subscription book as paying Re. 1 - per month...and his name will be shown as ‘In Memory of late Mr. P. N. Bose.’

In his letter of condolence to Kamala (4th May, 1934), Dr. Dhunjeebhoy wrote on behalf of the Indian Mental Hospital, Kanke, Ranchi :

“We were very grieved to hear the news of the death of Mr. P. N. Bose. Please accept our (I. M. H.) sincere condolence in your bereavement.

“His passing is indeed a great loss to this hospital also as Mr. Bose was one of the most kind, sympathetic and regular Visitors of this Hospital ”

## CHAPTER XVI

### CONDOLENCE MEETINGS AND MEMORIALS

*The Public Meeting at Ranchi—The Ranchi Union Club and the Ranchi Public Library—The Indian Association, Jamshedpur—The Alumni Association. N. C. E. (Bengal), Jamshedpur Branch—Pramatha Nath Town Hall, Gaipur—Bust of P. N. Bose at Jamshedpur—Unveiling of Portraits at the Presidency College and the Asiatic Society of Bengal—The Asiatic Society further commemorates Memorials and Bust at the College of Engineering and Technology, Jaduvpur, Bengal—Ceremonial Unveiling of P. N. B.'s Plaque at the Geological Survey of India.*

Pramatha Nath's unexpected death came as a shock to many public bodies and associations, and they sincerely mourned his loss at their respective meetings held for the purpose. The citizens of Ranchi met on 13th May, 1934, and paid the following tribute to his memory :

“The citizens of Ranchi, assembled at a public meeting held in the Collins' Co-operative Buildings on Sunday the 13th May, 1934, express their sense of deep and profound sorrow at the sad and sudden death on the 27th April, 1934 of Mr. P. N. Bose, who was one of the most prominent citizens of Ranchi

and who by his amiable disposition and charming personality together with many qualities of his head and heart endeared himself to all people, rich and poor. The town of Ranchi has suffered irreparable loss at the death of Mr. P. N. Bose. The gentlemen present at this meeting offer their heartfelt and sincere condolence to the bereaved family."

By another resolution an influential Committee was formed with Sukumar Halder as President to devise ways and means to perpetuate the memory of the late P. N. Bose. We find the P. N. Bose Memorial Committee issuing an appeal in 1938 to raise funds for the above purpose under the signature of A. P. Middleton, Commissioner of Chota Nagpur Division and President, P. N. Bose Memorial Committee. The appeal says: "As a literary man throughout Mr. Bose took great interest in the Ranchi Public Library and was also connected with the Ranchi Union Club for a long time and he used to take a keen interest in the welfare of both the institutions. It is, therefore, in the fitness of things that the memorial should be erected in the premises of the two institutions."

The two above-mentioned institutions passed the following resolution at a joint meeting on 5th May, 1934 and sent it to Mr. Bose's family under the signature of Jaykali Dutta :

"The members of the Ranchi Union Club and the Ranchi Public Library at a joint meeting held in the Union Club premises on Saturday the 5th of May, 1934 place on record their sense of deep and profound sorrow on the sad and sudden death of Mr. P. N. Bose who was member of both the Institutions for a long time and used to take keen interest in their welfare.

The members present at the meeting express their heartfelt condolence for the bereaved family.”

On the 2nd May, 1934, the Indian Association, Jamshedpur, passed the following resolution and sent it to Kamala under the signature of P. N. Matbur, President :

“This meeting of the Indian Association of Jamshedpur expresses its deep and sincere sorrow at the demise of Mr. P. N. Bose, the eminent Geologist, Scholar & Educator, whose discoveries of the rich iron ore deposits at Gurumahisani and other places were materially instrumental in the final decision to locate the Tata Iron and Steel Company's Works at its present site and consequently in the founding of the town of Jamshedpur.”

The Alumni Association, N. C. E. (Bengal) Jamshedpur Branch, mourned the loss of Pramatha Nath at a meeting held on 7th May.

The people of Pramatha Nath's native village Gaipur and the neighbouring villages, Gobardanga and Khantura, assembled in a public meeting on 27th May, 1934 at the Gobardanga Municipal Hall. While mourning the irreparable loss they had suffered, they resolved to perpetuate the memory of the departed great in a suitable manner. To commemorate Pramatha Nath, a Town Hall was erected in the neighbourhood of his paternal house. The expenses of the building were borne by Amiya Nath Bose, brother of Pramatha Nath. The opening ceremony of the Pramatha Nath Town Hall was performed with great eclat on 8th March, 1936 by Sir Bijoy Prasad Singh Roy, then Minister for Self-Government, Bengal. The Pramatha Nath Bose

Memorial Society has been formed there. This society runs a Charitable dispensary in a small scale.

Pramatha Nath Bose was a Lecturer-in-charge of the Geology Department, Presidency College, Calcutta, during 1901-3. In recognition of his services to the Department, an enlargement photograph of him was unveiled by the late Professor Hem Chandra Dasgupta in 1926-27 and put up in the Geology Department, Baker Laboratory, Presidency College, Calcutta.

Pramatha Nath's connection with the Asiatic Society of Bengal commenced from the year 1883, and lasted for a period of over half a century. He was a regular member of the Society for thirty-two years. The Society condoled his death and arranged to perpetuate his memory in a suitable manner. During the year 1935 Sir B. L. Mitter, on behalf of the Pramatha Nath Bose Memorial Committee, donated a sum of Rs. 1,800 invested in  $3\frac{1}{2}$  % Government Paper for the institution of a Pramatha Nath Bose Memorial Medal for conspicuously important contributions to the practical or theoretical Geology with special reference to Asia, with a view to commemorate the life-work of Mr. Bose, a pioneer of geological science and practice in India. The award is triennial.

On behalf of the subscribers of the fund of the Memorial Committee, Sir, B. L. Mitter also presented a portrait of Mr. P. N. Bose, painted by the famous artist Atul Bose, sometime Principal of the Government Art School, Calcutta. The painting is a striking piece of work of Art, and has been hung in the Society's Hall.

Jamshedpur could not forget Pramatha Nath. The P. N. Bose Memorial Committee of Jamshedpur arranged for a marble Bust of Pramatha Nath. It should be mentioned here that the directorate of the Tata Iron and Steel Works contributed the major portion of its expenses. The unveiling ceremony of the marble Bust of P. N. Bose was held on the 13th March, 1938. Sir Lewis Fermor, Director-General of the Geological Survey, Government of India, while unveiling the Bust, paid a very handsome tribute to the services P. N. Bose rendered to his country in the capacity of a geologist, scholar and author of great repute. Ardeshir Dalal, the Managing Director of the Tatas, presided over the function. A detailed account of this ceremony is given in the Appendix.

Pramatha Nath's connection with the Bengal Technical Institute—now the College of Engineering and Technology (Jadavpur) Bengal, was most intimate since its inception. He had donated five hundred rupees for the institution of a prize for the best geological student of the Institute. The Geological class was afterwards abolished, and the amount was absorbed in the College fund. Geological Engineering has now been included in the curriculum of Mechanical Engineering. The College of Engineering and Technology, Bengal has arranged the award of a bronze medal, called "Pramatha Nath Bose Bronze Medal" annually in memory of Pramatha Nath Bose, to the student who secures the highest marks in the subject "Engineering Geology" in the Final Mechanical Engineering Examination of this college. It has been possible for the kind donation of Rs. 1000/-

by Lady Pratima Mitter in memory of her father, Pramatha Nath. The College has recently honoured itself by setting up a bust of Pramatha Nath in its main Hall.

During the Centenary Celebrations of the Geological Survey of India in January, 1951, the members of the Department arranged to perpetuate the memory of the late Mr. Pramatha Nath Bose, a former officer of the Survey, by having his plaque placed ceremoniously in the Officer's Room of the Department.

A meeting presided over by Mr. Austin M. N. Ghosh, Superintending Geologist, Geological Survey of India, was held for the purpose on the 11th January, 1951. It was attended by the Government of India guests, mostly distinguished geologists from overseas, delegates from scientific and other organisations throughout the country, as well as by the officers of the Department. Before inviting Dr. D. N. Wadia, a doyen of the Geological Survey of India, to unveil the plaque, Mr. Ghosh paid eloquent tributes to the manifold activities of P. N. Bose performed under conditions of great difficulty. He mentioned that Bose was the first Indian graduate in Science from a British University to be appointed to a graded post in a scientific department which till then and for nearly half a century afterwards, was a close preserve for Europeans. In Bose's time the appointment of an Indian to a post reserved for Europeans was not relished in high quarters and every action of an Indian officer was subjected to close scrutiny. It goes to the credit of Bose that he came out with flying colours leaving a mark wherever he



Marble Bust at Jamshedpur





went for geological investigation. Mr. Ghosh recalled in glowing terms the genius in Bose that led to the discovery of practically all the major iron-ore deposits of India and one of which at Gurumahishani laid the foundation of Asia's biggest steel works at Jamshedpur and mentioned that Bose introduced into this country the study of rock sections under the petrological microscope.

Characterising Mr. Bose as a noble son of Bengal the speaker feelingly referred to the qualities of Mr. Bose's head and heart, and gave a charming resume of his activities not only in the scientific field but also in the domain of art and literature. He concluded by saying that a man of simple habits and unassuming manners, but with a strong and determined will which brooked no compromise, Mr. Bose's memory will be lovingly cherished and remembered by his ever grateful countrymen.

On being requested to unveil the plaque Dr. Wadia associated himself with the remarks made by Mr. Ghosh and said that future generations of Indian geologists should be thankful to Mr. P. N. Bose not only for his contributions to theoretical and economic geology of India but also for the fearless manner in which he gave evidence\* before the Royal Commission for Public Services in India championing the cause of Indians for recruitment to the Geological Survey of India and suggesting for the improvement of the teaching of Geology in this country. Dr. Wadia then unveiled the plaque amidst acclamation.

\* See Appendix

## REMINISCENCES

### I

My earliest recollection of my father is that of a tall and handsome man with a fair rosy complexion, almost like a foreigner's. He had a long black beard, which he shaved off later. The only photo taken after his return from England, is reproduced in this book.

He was exceptionally kind and sweet-tempered, and could not say a harsh word to anyone. As a child I do not remember having ever been scolded by him. Although so tender-hearted, yet he had a physique of steel. He could brave the most hazardous unbeaten tracks all by himself. For six months each year—November to April—he had to go camping on Geological Survey work, and had visited almost every part of our vast country, including Kashmir, and Assam as well as Burma and the Malayan Archipelago. Today one wonders how in those days when there were no facilities of transport he could have penetrated as he did into the remotest parts of our country and also whenever possible taken the family with him. While we were young mother always accompanied him, and they took my eldest two brothers Asoke and Alope and me.

My sisters Surama and Pratima were too young to stand the strains of travels, so they were left with my maternal grand-parents at Calcutta.

I can remember going to camp with my parents in the dense jungles of the Central Provinces. My father, mother (dressed in a lady's riding habit) and my "Dada" Asoke as yet a boy, used to ride on horse-back, and my Mejda (Aloke), better known by all as "Bhaiya" and myself used to be carried in baskets on men's back. Often at night while living in tents in dense jungles, we heard the roaring of tigers and wild animals and big fires were lit on all sides of the tents to scare them away. We were not afraid and felt safe because my father always had a gun near him. He sometimes shot wild animals even tigers, but he never shot birds. We had two faithful Behari servants, Hemraj and Pahar, who accompanied us in our travels. Our trip to Burma from Calcutta was the first time we went aboard a big ship and on the sea. It was a novel experience. At Rangoon we were the guests of Mr. P. C. Sen, Barrister, a great friend of my father, since they were in England together. We became very intimate with his family, but we had to leave soon for distant places. While in the Tennassarim Valley, father had to go to some interior places where he discovered large coal deposits. He was accompanied by his junior Mr. P. N. Datta. We could not be taken on account of difficulties of the journey, so we were left in the headquarters of the camp. For days together there were no news of them, as there was no means of communication from those parts, so mother and we spent three

anxious weeks, till they returned. Then father took us to Mergui Archipelago, Malaya, and other places, and we gained new experiences of these countries. In 1890 father toured in the hilly tracts of Darjeeling, and went up to the foot of Mount Everest. Then he went to Sikkim where he discovered a copper mine, also to Kashmir, Simla, Kulu valley and various other places.

When the family increased, and father had to think about our education, father rented the 36 Park Street house in Calcutta in 1893. My grandfather Romesh Chunder Dutt removed from his old residence 20 Beadon Street where I was born, and took the house next to us—37 Park Street. Here we had the first opportunity of witnessing a marriage in the family, that of my aunt Sarala (fourth sister of my mother) with the young I. C. S. J. N. Gupta. He was an ardent admirer and follower of Poet Rabindra Nath Tagore and my father named him "Lotus-eater." On this occasion Poet Tagore not only was present, but he composed and sang songs accompanied by his nieces Sm. Indira Devi and Sarala Devi, who were great friends of my aunt's.

The memory of the home that our parents built for us comes back as a dream. The home used to be the centre of culture and refinement. The social contacts with the intelligentsia and outstanding personalities like the Tagores who lived in Jorasanko, Keshub Chunder Sen's family who lived in the Lily Cottage, W. C. Bonnerjea, Monmohon Ghose, B. L. Gupta, Dr. P. K. Ray, Mr. G. K. Gokhale, Miss. Margaret Noble (Sister Nivedita), Dr. J. C. Bose, R. N. Ray, K. G. Gupta, A. M. Bose, D. L. Roy

and others gave us the rare opportunity of coming into personal contact with the best men and women of Indian Society. My grandfather used to make it a point to personally teach us English literature, Sanskrit and French. He and my parents were passionately fond of music— Indian and foreign, and they took every care to give us the best training in music, and indeed they had reason to be proud of the musical talents of all their offspring. Each one of us got well trained in at least one musical instrument and all of us could sing. Music has played a great part in our lives. It has been a joy in our bright days, and a comfort in times of sorrow and affliction. Father always accompanied our songs with his violin. Even in the camps and throughout his life the “fiddle” was his constant companion, and towards the end of his life it was a great joy to him to play on it, and he would sing his favourite hymn,\* into melodious voice.

\* “দিব। অবসান হল, কি কর বসিয়া মন,  
উত্তরিত ভবনদী, করেছ কি আয়োজন।  
আয়ুর্শর্ষা অন্ত যায়, দেখিয়ে দেখ না তায়,  
ভুলিয়ে মোহমায়ায়, হারিয়েছ তত্ত্বজ্ঞান।”

*Translation*

“The day has ended. What are you doing ?  
The end of your voyage is drawing near ;  
Have you made arrangements for it ?  
The span of life is nearing its end  
But you live in deep illusion,  
And you lose the real wisdom of life.”

His other favourite song was :

“মন একবার হরি বল।  
হরি হরি হরি বলে ভবসিদ্ধি পারে চল।”

“O my mind, take the name of Hari  
With Hari Hari on your lips cross the ocean of the world.”

While at Park Street in 1893, father started writing his three volumes of *A History of Hindu Civilization during British Rule*. He used to discuss with grandfather and other writers of the day, and he completed and published the work. My paternal grandfather, grandmother, uncles, aunts and cousins used to come and visit us from our ancestral home at Gaipur and they brought the village preparations—*gur*, *moori* (fried rice), *moa*, which father and we all loved. We were always delighted to hear from them the stories of the countryside. Father blended in his life the simple village life with town life, and taught us to do the same.

In 1896, father bought a coalmine in Asansol, and he was greatly interested in developing it. Whenever he got time he went and supervised it. He put his brother Kumud Nath Bose in charge. Father took a house in Asansol, and took the family there, where we were put in the Convent, and my brothers at St Joseph's for our education. We used to love to visit the coalmine with father, and to go down the pits to see the coal sparkle like diamonds. But father was not a man of the world, and he could never make any profit nor had his brother a head for business, so ultimately he sold the coalmine at a loss.

In 1900 we all returned to Calcutta, where our youngest brother Madhu was born. The time had come when we had to be sent to college and be trained in music and art and father rented a large house, 63 Dharamtola Street, where we nine brothers and sisters spent our happiest days. Father and mother were very hospitable, and not only my grand-

parents, uncles, aunts and cousins from far-off places like Assam and Burma but friends from outside Calcutta used to come and stay with us and enjoy their hospitality. Famous literary men, musicians as well as those prominent in public life used to visit our house and be entertained by us. Our parents encouraged us to organize dramatic performances, like *Alibaba*, *Dhruva*, *Sansar* (my grandfather's book), were a great attraction for our people.

In 1903 father was superseded in service by an Englishman, Mr. Holland, later Sir Thomas Holland. Although they were on very friendly terms, my father resented any injustice, so he sent in his resignation from the Geological Survey of India, and thereby lost his full pension, although there was the large family not only his own but his brothers' and sisters' children to maintain, educate and marry. He had faith and courage, and these sustained him. He got immediate appointment to prospect and survey the Mayurbhanj State in Orissa and the details about the discovery of the Gurumahisani iron-ores have been discussed in the book. I should add that while father was engaged in the negotiations with different companies and ultimately with the Tatas, he needed a confidential clerk, and as it was difficult to find one, so he would dictate his correspondence to me. Then he bought a typewriter, and taught me to type, so that he could have swifter correspondence, and keep copies. So I knew how thorough and methodical father was in all that he did.

In 1904 when father was busy with the Mayurbhanj work, my engagement to the recently



returned Barrister Prasanta Kumar Sen was announced. Father hurried back to make arrangements for the engagement or *tilak* ceremony. Being the first marriage in the family, it was decided that the wedding ceremony would be performed in a grand manner. Relatives and friends were summoned even from outside Calcutta. For instance, my mother's second sister Bimala who was married to B. Borooah of Assam came from there with their daughter Jush, who as my grandfather described her, was my *Parambandhu*! My aunt Sarala and uncle J. N. Gupta came from Malda. My grandfather wrote a vivid account of the engagement ceremony to my aunt Amala who could not come from Midnapore as she was ill. After describing those who attended, amongst whom were Sucharudevi, Monica and Dhoni from Lily Cottage, he paid eloquent tributes to the charm of the future son-in-law, and of father he wrote that "in his quiet unostentatious ways he charmed everyone and was a perfect host, and that in his silk dhoti chaddar and punjabi, he looked almost as young and handsome as the bridegroom." My father-in-law Rev. Prasanna Kumar Sen being a staunch follower and disciple of Keshub Chunder Sen, the marriage was to be performed according to Brahma Samaj rites. I was initiated into the New Dispensation of the Brahma Samaj, and Rev. Pratap Chunder Moozumdar conducted the Divine Service in which my father-in-law and my father participated.

The marriage ceremony was fixed for the 15th August 1904. Here I cannot refrain from saying a few words about one or two persons without whom my father would not have been able to make the

function such a great success. One was my Dada, Asoke, who seemed to take the load off my father's shoulders, and worked night and day in making the preparations. The other was my Ram-mama, father of Devaprasad Mitra, in whose Press known as the "Elm Press" this book is being printed. He made sumptuous arrangements about feeding over a thousand guests. A beautifully decorated pandal was erected, and almost the whole of Calcutta society was invited. The bridegroom arrived with his bosom friend, (Raja) Subodh Chandra Mullick. There was the *Varan* (welcoming the bridegroom) and then father led him to the pandal, whilst my grandfather took hold of my nervous hands and got me seated on the dais. Rev. Gourgovinda Roy conducted the service, and the vows taken by us. The accredited singer of those days—Sarla Devi, my Dada, and my sisters Surama and Pratima formed the choir, and it was their beautiful singing which counteracted my nervousness.

Then followed the Registration according to the Special Marriage Act III of 1872. Lord S. P. Sinha and my uncle K. B. Dutt, Barristers, signed as witnesses. This Act has a special significance in connection with my father's marriage, my marriage and the present times, so I may be pardoned for inscribing my impressions, as this question has lately been the subject of discussions in Parliament. It will be remembered that this Act was initiated at the instance of the Religious and Social Reformer, Brahmananda Keshub Chunder Sen, in order to legalise intercaste marriages which were taking place in the Brahmo Samaj in the sixties and early

seventies. Monogamy, Inter-caste marriages, and restraint on child marriage—the bride's age being fourteen and bridegroom's eighteen years, were some of its Provisions. Although Keshub's idea of marriage, as he laid down in the *Nava Samhita* "is a sacred tie, and indissoluble," in the 1872 Act a limited divorce clause according to the Indian Divorce Act, was introduced by the legislators. This Act has existed for 82 years but the cases of divorce have been very few, as Brahmors still adhered to the ideals of Hindu marriages. At the time there was a storm of opposition from the orthodox communities against such an Act. In order to appease the oppositionists the British Government inserted a clause of a declaration, "I am not a Hindu, Buddhist, Jain and Sikh." This went against the conscience of Keshub and many others, as it did in the case of my father's marriage, which would have taken place under it, as father was at heart a follower of Keshub Chunder Sen's principles, but he had scruples to making this declaration, so he could not avail himself of the Act, as he still considered himself a Hindu—as all Brahmors do except that they worship the one God and believe Fatherhood of God and Brotherhood of man. Keshub's idea and purpose of the Marriage Act was inter-caste marriages, to do away with castes and creeds, but he wisely yielded to whatever benefits that could be derived out of it, and left it to time to amend the defects. At last under Hari Sing Gour's amendment of the Special Marriage Act in 1923 in the Central legislature, this obnoxious declaration was deleted. The Special Marriage Act has benefited

many outside the Brahma Samaj, and it had come to stay. It has now been made wider, and is applicable to all Indians irrespective of religion, and also without having to eschew their religion, so the Special Marriage Act 1954 passed by the Indian Parliament, is a triumph for Keshub, who started their reform in 1872--82 years ago.

After my marriage, father secured a Government Technical scholarship for my Dada, Asoke, and sent him to England for studying Mining and Geology. He decided to take the family to Darjeeling, as he was doing some prospecting work there, and took a house "Ruby Ville." From there father arranged to send Mejdā, Aloke, to England for technical studies. After that he got my sister Surama married to Rajat Nath Ray, Barrister, at Calcutta.

Finally, father bought a huge piece of land at Ranchi, and built a palatial house. The first great event there was the marriage of my third sister Pratima to Brojendra Lal Mitter, who later became the Law Member of the Central Government. This was followed by the marriage of my fourth sister, Purnima to Amulya Chandra Bose, who was employed at the Tatas at Jamshedpur. Father became so passionately fond of Ranchi that he would not stir out from there except on rare occasions like the marriages of his sons, Amar known as "Raja", and Madhu to Sadhana, and my youngest sister Uma to J. De. I. C. S. His last visit to Calcutta was for the marriage of his first grandson, my son Susanta, in 1931 for which he said he had made a "special concession."

At Ranchi gardening became father's favourite hobby, and indeed his orchard there was one of the

finest, in which fruits of all variety grew, and he shared them with all. His main diet was fruits and milk products, and he would tend to the cows personally with the help of our old servant Pahar. He also took to Yogic exercises, and practised *Pranayam* every morning. After his accustomed rounds in the garden he would regularly sit in his office and concentrate on writing, not only on his own pet subject, Geology, but on some of the burning topics of the day. His pamphlets and books were printed and published. He also wrote his "Reminiscences and Reflections of a Septuagenarian" which were published in the *Patrika*.

Father was associated with many philanthropic and humanitarian work, and his contribution in setting up the cottage industry at Ranchi is a landmark there. No one who went to Ranchi returned without his genial hospitality and that of my mother. They were both loved by all. When Dr. Sachchidanada Sinha was appointed a Member of Ex-Council of the Governor of Bihar, and the Government houses were not ready, father insisted on his staying as his guest. Dr. Sinha has written a chapter on father in his book *Great Men of Bihar*. Sir R. N. Mookerjee built his house near my father's, and they were intimate friends. The other distinguished friend who often met father to discuss important political subjects and problems, such as Swaraj, was no other than Dr. Rajendra Prasad, who has now become the first President of Independent India. How pleased father would have been to see him in this position today. When father paid us a visit at Patna Dr. Rajendra Prasad, Sir Ali Imam, his old class friend Mathura

Prasad Singha, and many others came to see him and discussed important matters of the day.

Father loved a game of 'Bridge' in the evenings, and at Ranchi his friends made it a point to come to play with him. Amongst them were Colonel & Mrs. B. J. Singh, Jaikali Dutta, Kalipda Ghose, Haridas Chatterjee and others.

When Ranchi was at its best, at father's peremptory behest we all sisters and brothers with our children gathered at Ranchi. His house seemed to be a Paradise on earth, and those happy memories are never to be forgotten. From his children, now the grand-children became the centre of attraction. It was now their turn to entertain him and his numerous friends at Ranchi, with singing, music and dramatic performances. My eldest brother Dada returned from England in 1910, and we were so happy and everyone doted on him. He got a Government appointment at Tipperah, but it was not for long, for there he contracted some acute infection and came to Calcutta and stayed with my grandmother "Didima" (Mrs. R. C. Dutt) at 9/1 Hungerford Street for treatment. Mother came from Ranchi, father could not believe the illness was so serious, so he did not arrive till my Dada's last moments. All medical experts, such as Dr. Nilratan Sircar, in whom father had immense faith, Colonel R. L. Dutt, Dr. B. C. Roy who had just returned from his brilliant career in England, were constantly attending on him, but he was called to his eternal rest on the 7th April 1912, in the prime of his youth and career. This shock absolutely broke my mother, but father stood

it with calmness and resignation. Another greater shock was in store for my poor parents in their old age. Mejda (Aloke) had also returned from England after a brilliant career. He was taken in as the Government Metallurgist at the Tatas. He was married to Shanti, daughter of my father's great friend the famous surgeon, Dr. Mrigendralal Mitter. The grandson and heir of the family was born to the great joy of all. But the happiness was short lived, for after a very brief illness from an attack of War Influenza, Mejda (Aloke) passed away at Sakchi (Jamsbedpur) early in October 1918. These two heavy trials would have broken down anyone else, but father showed his wonderful submission to the "Will of God." My sister-in-law brought the lovely infant child—only a year old to live with my parents at Ranchi. Father named him "Asis," and he became the real blessing to my parents, and was the apple of their eyes.

Father himself would never submit to any medical treatment as he was a believer of "Naturopathy." He passed away after a very brief illness on the 27th April 1934. Thus ended the span of a great and good soul. His friend Colonel Sirgh said with tears in his eyes, "A great *Sadhu* has passed away."

Sushama Sen

## II

I would like to write a few lines regarding my father's life during my stay with him in Ranchi in 1917 (after my husband's death). At that time, I came into very close contact with him. His daily activities were that he mostly wrote books and did gardening in which he took the keenest interest. He had a lovely orchard of mangoes, lichies of the best type, pappas, bananas and every kind of fruits and vegetables one could think of. Anyone who came to visit him was given something from his garden. His hospitality and generosity was a by-word among his friends and acquaintances. Even today, those who are living, speak of his kind hospitality and friendly feelings towards them.

His greatest recreation was to play bridge in the evenings; this he thoroughly enjoyed. Even if he went out to parties he made it a point to come back home for his bridge. He was a very independent man, for after he lost one or two of his friends through death and could not get up his usual bridge-sessions in the evenings, he took up practicing the violin (which he had given up for years), as he did not want the help of anyone to entertain him.

We sisters and brothers visited Ranchi during our holidays. Our children thoroughly enjoyed the stay there. Even today they have a great weakness for the place and talk of those unforgettable younger days. They led more or less rural lives, bathing in the pond, playing hide and seek on trees, roaming aimlessly on acres and acres of paddy-fields—these they thought to be a great fun after Calcutta life. My



father's motto was "plain living and high thinking" and his food consisted chiefly of milk preparations of all kinds. He loved dahi, sandesh, khoi, cheera and other simple food. He was very fond of fruits of all varieties which as I have mentioned before he had in plenty in his garden. He was practically a vegetarian though he did take eggs and a few varieties of fish, such as shinghi and magur. He did not believe in drugs and medicines. In his garden he had Eucalyptus trees and many medicinal herbs, so when he needed any kind of medicine he would prepare it straight from the herbs he grew in the garden. He died at the age of 70, but I never remember him suffering from ailments of any kind.

We all tried to persuade him to buy a car but he used to laugh and say, 'as long as I can use my legs I shall never depend on any thing else.' Till the last he used to walk to the meetings and never got fatigued.

One incident I would like to mention which impressed me a great deal. We were going to Gaipur for the opening ceremony of a tube-well in the name of my father. We went in three or four cars. My uncle Mr. J. N. Gupta who was going to preside over the function, was in a separate car. My father and I were in the same car. When we neared Gaipur, some of her people with garlands and bouquets, standing by a much-decorated gate (erected especially for the occasion), came to garland my father. He thought that it was meant for my uncle and those people were making a mistake, so he told them, "I am not Mr. Gupta. He is at the back in another car. It is he who is going to preside



Sons and Daughter of Pramatha Nath Bose

Front Row : Madhu Bose

Middle Row : Left to right--Pratima Mitter, Sushama Sen, Surama Ray, A. N. Bose

Back Row : Uma De. Purnima Bose



over the function." They then said, "No, this is for you Mr. Bose, we have come to give you the honour you deserve." He meekly submitted to it and let them garland him. This incident shows just how simple-minded he was.

As everyone knows, he was the discoverer of the iron ores in Gurumahishani because of which it was possible for the Tata I.&S. Co. to have sprung-up. For a long time no one knew of him as the discoverer of the iron ores. When my second brother got a job in the Government Laboratory at Tatanagar he was the first to discover this, and he brought it out in a magazine. He told father about it, but he said, "Why did you do this? After all it was such a small matter and it need not have been mentioned at all." To-day Tata I. & S. Co. is the biggest steel plant in India, employing thousands of our countrymen. At Tatanagar in a public park, a marble bust of father has been erected in his memory.

Father's retired life was like that of a *sadhu's*. Living in this world amongst everyone, he was yet detached from everything and everybody. He loved to have us around him, but when the time came for us to leave him, although he felt very keenly that we should stay, he never showed his feelings but let us go. He was happy and contented with what little he had. He died a happy and peaceful man. He always said that he would never be a burden to anyone in any way. He passed away quietly in his haven in Ranchi. My elder sister, my third brother and I were in Europe at that time. Only my sister Purnima was with him and she will narrate her impressions of his last days. We have lost a

very happy and dear home in Ranchi. There we had spent some of our happiest days. It was there that we could unburden our sorrows and anxieties and find peace and comfort.

Suroma Ray

### III

Mother' along with Purnima, Uma and myself left for Ranchi in March 1908. We went all the way by train, as there was no motor road in those days, and we had to change at Purulia to get into the meter-gauge. The scenery was very pretty while we passed through forests, and at places the trees wore a blaze of colour with Palash flowers in bloom. From Ranchi Station we went to Jnanadanandini Devi, wife of Satyendra Nath Tagore's house, where we were kindly accommodated, as father's house was not complete. Srimati Indira Devi Chowdhurani was staying there and we used to have musical evenings. Indira Devi taught us a number of Rabindra Nath Tagore's songs. After staying with Juanadanandini Devi for about a fortnight, we removed to father's house. My marriage was fixed for the 16th of April and father and mother were very busy making all the arrangements. We were newcomers to Ranchi and hardly knew anybody, but Jnandanandini Devi and Indira Devi helped us a lot. Brojendra arrived for the wedding in a horse and carriage as no cars were available in Ranchi. He was received by father who looked after all the guests. After the ceremony was over,

Indira Devi Chowdhurani sang a beautiful song by Tagore, "Be happy and make others happy." The next day sadly I left father's home for Calcutta to start my new life with my husband. When I went to Ranchi again, father showed me the place where we were married. He had cemented it, and made it a place to sit out during the summer. I was deeply touched by this.

Father settled in Ranchi and led a quiet and simple life. He was loved and respected by all who came to know him, for his unassuming ways. Father was regular in his habits. He got up early in the morning and I used to hear him take his morning walk on the roof of the house. He was punctual at his meals, and ate very simple vegetarian food. He spent most of his time in gardening. In fact, he was very proud of his orchard in which he grew delicious mangoes, lichies, pappas, bananas, pine-apples, custard apples and other fruits.

During the Pujas we went on occasions to Ranchi, and used to have family gatherings. Father loved being surrounded by his children and grand-children, and insisted that we should get up theatrical shows. Once we got up Jyotirindra Nath Tagore's *Hite Bipareet*. Uma was in charge of the rehearsals. On the day of the show we all got busy putting up the stage. A part of the verandah was enclosed and wooden *taklaphoshes* were put up for the stage. Curtains were sewn together for the screen and with leaves and flowers from the garden, the stage was complete. Father went out personally to invite all his friends to come to the show ; he told them, "My

children and my grand-children are doing the play—you must all come to see it," for indeed he was proud of their talents !

After the show guests were treated to tea and refreshments and everybody enjoyed themselves.

Our house at Ranchi became the centre of social and cultural activities, and residents as well as visitors came to our house which was open to all.

Father was a person who felt deeply but never expressed his feelings. I remember when my second brother Alope died very suddenly in 1918. I was in Ranchi at the time when the news came from Jamshedpore, where my brother was working. Father opened the telegram and came to tell me the sad news. Mother was not at home at the time, and the first thing he told me was not to break the news to her immediately she came home as she would be tired, but to tell her after she had rested and had her lunch. When mother came home, we sat down to lunch. I noticed father talking to mother in his usual way. I had the greatest difficulty in restraining myself. I was surprised to see how wonderfully he controlled himself. He led a saintly life, and I never heard him say a word against anybody. He truly believed in simple living and high thinking and practised it in his life. He has left a noble heritage for us to follow :

“Lives of great men all remind us,  
We can make our lives sublime,  
And departing leave behind us  
Footprints on the sands of time.”

Pratima Mitter

## IV

In the year 1934 we were in Jamshedpur, as my husband was engaged at the Tata Iron & Steel Works. The distance between Jamshedpur and Ranchi is about 130 miles by car and as the motorable road was always kept in a very good condition, it took about four to five hours to get to Ranchi. The scenery throughout defies all description, it is the wildest and most picturesque scenery that can be made up of mountains, rivulets and wild vegetation.

I often visited my parents who were at the time settled there, the rest of the family being not as near as I was. And unfortunately in the year 1934 most of them were far off, my sisters Susama and Surama and my brother Amar were in England, Pratima in Delhi, Uma in Noakhali and Madhu in Calcutta. About the first week of April that year I suddenly got a wire from my father, saying, "Mother ill come." I felt anxious as I knew father would never ask me to go if it had not been serious, so I left for Ranchi. Amulya could not come because of his work. On my arrival at Ranchi I found mother was down with pneumonia and my youngest aunt who lived with them was down with "flu." Mother's condition was causing anxiety, as she also had a weak heart. After a week however her condition took a better turn and the doctors thought her to be out of danger. Both father and mother were very happy to have me with them as they felt very lonely. Father occupied himself with books and gardening,



but mother was fond of company and liked to be with us all the time. As soon as mother was a little stronger I prepared to leave for Jamshedpur. It was sad to part from them but they both realised that if I stayed longer, it would inconvenience my family at Jamshedpur. The day I was leaving, I had noticed father exceptionally quiet. Usually he used to come to our rooms and talk on various subjects. I surmised it was perhaps due to the strain and anxiety during my mother's illness that had upset him.

My luggage was put in the car and after taking leave of my mother I went in search of father. I found him sitting in an armchair wrapped up in a shawl in his office room, his face appeared flushed. It was then that I discovered he was ill, he did not want to draw my attention, as was his nature and in case my plans were upset, he kept quiet over the matter. I dismissed the car and helped father upstairs to his room and he immediately took to his bed. I found his temperature very high and he also had slight difficulty of breathing, so I guessed he must have been ill for some time. After consulting mother and much to my father's annoyance we sent for the doctor. Father never believed in calling the doctor for himself and was against taking medicines. Here, I would like to mention a few words regarding the healthy life father led at Ranchi. He had a wonderful constitution, and we do not remember him sick in bed. Very few could boast of such good health at his age, he was then 79 years of age still active, hale and hearty until his last illness. The cause of his keeping so fit was partly due to his regular habits. He was very particular about his diet and often gave

us advice about the kind of diet good for us. Perhaps if we had taken his advice, we would have had better health to-day. Even when he was ill in bed he would have long talks with the doctor on diet and medicines, and the doctor would tell us, "There is little I can do for him, he knows so much."

On the third and fourth day his illness (which the doctors had diagnosed as bronchitis) took a better turn, and visitors were allowed to see him in his room. Amongst his friends, Joy Kali Dutta, Col. and Mrs. B. J. Singh, Sri and Srimati Haridas Chatterjee, Dr. and Mrs. Dhunjeebhoy, and many others used to come. He greeted everyone with a smile and on their departure never forgot to instruct his servant to give some fruits and vegetables from his garden to them. He took a great pleasure in giving away what he liked most.

On the fifth day of his illness it suddenly took a bad turn. Both his lungs were affected, and the doctors were very much concerned. It was then that I asked him if he would like me to write and ask any of his relatives to come in order to keep him company, but he just laughed it out and said, "It is not necessary, I will soon get well". He even said, "I will complete my eightieth birthday on the 12th of May and will have a grand celebration." Little did I think that those were his last words to me. It was sad to see my mother who was still weak sitting by his bedside day and night and trying to give relief, though father never complained of any discomfort and appeared cheerful. We made trunk calls and sent wires to all our relatives. Those who were near started immediately. Uma, Madhu, Asis (his

grandson), Prasanta Sen, Amulya Bose (sons-in-law), Amiyo Bose (brother), Nut Behari Mitra and Prafulla Mitra (nephews) all arrived, but alas ! too late.

In spite of the best of medical attendance and nursing he passed away peacefully in the early hours of the 27th of April. Mother was with him till the last. It was a great shock to her and she lay prostrated with grief. Visitors poured in since morning to have a last look at their dearly loved one. A look of perfect peace rested on the noble face of one who had gone to rest after life's battle was fought and won. Peace and silence reigned in that chamber of death filled with flowers all around.

As the funeral procession started his dearly loved boys of the Brahmacharya Bidyalaya sang *kir-tans* all the the way to the banks of the Subornarekha where the last rites were performed. All along father had pleaded for unity and no proof could be found more than at the funeral procession, when Hindus, Mahomedans, Sikhs, Parsees all with bent heads in reverence joined the procession.

So deep was the sympathy of the people of Ranchi that most of the shops and institutions were closed. A son of humble parents had duly received such honours as he deserved.

Purnima Bose

## V

I find it extremely difficult specially being his son, to write within a concise compass about his saintly character, his erudition, his manifold activities, his strong determination and his various qualities of head and heart which endeared him to all who came across him.

He passed the F. A. Examination from the Krishnagar College securing the 5th place in order of merit. The then veteran educationist Mr. Lobb, Principal of the College, remarked regarding him, "In the whole course of my experience I have never met with a student who wrote better English." He was a Gilchrist Scholar of 1874. He obtained his B. Sc. degree from the London University securing a very high place in Physical Geography, Geology and Botany. He stood first in Biology, Geology and the Science of Fossils in the final examination of the Royal School of Mines. He was the first Indian who won great distinction in the Geological Department of the Government of India.

He conducted some very useful Geological surveys in some of the most inaccessible regions of India and Burma. For sometime he was a lecturer of Geology in the Presidency College, Calcutta. He was a pioneer of the technical and scientific education and industrial enterprise. He was the author of a number of scholarly publications on Indian history and literature. His *A History of Hindu Civilisation during British Rule* won recognition at home and abroad. He was a strict disciplinarian but with a

kind heart. Above all, he was a great patriot and of an independent nature for which he had to pay a great price during the British bureaucratic rule under the Viceroyalty of Lord Curzon. He was very modest by nature and shunned publicity. As an apt illustration I am narrating the following incident :

While I was practising as a dental surgeon at Jamshedpur it was my fond desire to bring down my father, once to see himself the achievements at the Tata enterprise which had its origin on his discovery half a century ago. Opportunity came. A very well-known public spirited gentleman the late Nagen-dra Nath Rakshit who was then General Manager of the Wire and Steel Foundry, suggested to me that he would very much like the Jamshedpur people, specially the employees of the Tata Iron and Steel Works, to appreciate the invaluable contributions made by my father in building up this biggest industrial concern in India. He spoke to Jagannath Agarwal, the proprietor of his foundry, and requested him to arrange a party in honour of my father. Agarwal readily expressed his desire to give such a party.

Rakshit asked me to write to my father beforehand and request him to come to Jamshedpur. I wrote to my father all about what Rakshit told me. I was in high hopes of receiving my father as Agarwal had made all arrangements for holding the party and even wanted to send his car to Ranchi to fetch my father. My father, however, informed me that he would not be able to come and asked me to convey his thanks to Rakshit. But

Rakshit would not listen and he himself wrote a long letter to my father entreating him to come for a day as all arrangements were complete and Agarwal had already sent out his invitation and wanted to send the car immediately to Ranchi.

My father had to yield to such affectionate persuasion and sent me a telegram asking me to meet him at Chaibasa, as he did not very much like the idea of a car being sent to Ranchi to bring him. I met him at Chaibasa and drove him in my car. It was in the month of October that my father came to Janshedpur and stayed with me for four days. Those very few days were memorable for me and I shall cherish them till the end of my life.

I was then a struggling dental surgeon. In spite of the cordial invitations from distinguished persons at the place to put up with them my father stayed with me. The big party was held on the very day of his arrival. I drove him to the party in my car though a number of beautiful cars were waiting for him in front of my bungalow.

It was one of the biggest parties that ever took place at Janshedpur. All the business magnates, the proprietors of all industrial concerns and subsidiary companies and the elite of the town were there. The guests numbered over two thousand. The whole town seemed to be present to honour my father and to have a glimpse of him.

The venue of the party wore a gala appearance with flood lights, festoons and innumerable multi-coloured tiny bulbs around and hidden amidst the leaves of trees. The whole place was turned into

a fairy land. Agarwal spared no amount of money and labour to make the party a big success.

Mr. Dalal, the Managing Director of the Tatas, requested my father to speak a few words as to how he discovered the Pig Iron Ores. It was my father who really discovered the rich and huge store of iron in Singhbhum and Manbhum districts during his extensive travels over the mineral belts of India.

I still remember the very few modest words spoken by my father. He said, "The Pig Iron Ores were all there. I accidentally happened to be on the borders of Manbhum and Singhbhum districts doing inspection work for the Maharaja of Mayurbhanj when I came across the colossal mountain of Pig Iron Ores. I would not really call it a discovery." After his short speech Mr. Dalal commented on his discovery and remarked that Bose was too modest to take the credit. If this be not called discovery, Mr. Dalal did not know what was meant by the term discovery.

There were numerous such instances during his short stay at Jamshedpur but I do not wish to lengthen this article anymore.

A. N. Bose

## VI

We often heard father say when he first went to Ranchi that he was accompanied by our Mejomesho Bolinarayan Borooah and went in a push-push from Purulia, 72 miles from Ranchi. They had very exciting experiences on their way coming across wild animals when the men who pulled and pushed

the push-push left the same in the jungle in their frights and they could only continue their journey when the situation was normal. This is how father first came in Ranchi when the place was unknown to many people, but he always predicted that Ranchi will be the health resort and a place of great importance and his prediction has come true as Ranchi today is no doubt a very important station being the summer residence of the Bihar Government and also the headquarters of the Eastern Command. Before father finally decided to settle in Ranchi, he went to Darjeeling and Shillong to see if he could settle down in these hill stations after retirement, but he found the winter months very trying and the only place where he could stay the whole year round was Ranchi. Although May and June were very hot in Ranchi, father did not mind it. In fact, he always said that summer was the healthiest month as no germs could breed in the excessive heat. When he decided to settle down at Ranchi in his old age he bought 21 bighas of land including a beautiful orchard and started building the house.

We first went to Ranchi in March 1908, the year the meter-gauge was opened, arriving there in the evening. The first ceremonial function was my Sejdi Pratima's wedding to Brojendra Lal Mitter (Sir B. L. Mitter). Some old friends of father and mother, Gangagobinda Gupta, Suresh Sarkar, Kalipada Ghosh, Jaykali Dutta and their family helped a lot in all the arrangements. The ceremony passed off smoothly.

Father arranged my Sejda Amar's as well as Madhu's education at the Ranchi Zilla School from



where they passed their Matriculation. Since there were no high schools for girls in Ranchi then, father arranged Noidi Purnima's and my education privately, but as this arrangement was not satisfactory, we had to come to Calcutta ultimately. We used to go to Ranchi during the Pujah holidays when father insisted on our getting up theatrical shows and thought whatever his children and grandchildren got up was wonderful. We got up Tagore's *Bisarjan* and also *Dhruva Charitra* and *Bharat Mata* which were highly appreciated. Besides the annual theatrical shows, father gave a big party every Pujah inviting friends coming from Calcutta and also all his local friends. Our house in Ranchi was a great attraction for those coming for their holidays and people used to come in from morning.

Father's favourite pastimes in Ranchi were reading, writing, gardening and playing bridge. He spent his morning in gardening, reading and writing and wrote several of his books there. He had very regular habits and seldom got ill. Even if he did, he would never call in a doctor and believed in 'Faith Cure.' Father always said, "I will never go to a doctor or a lawyer. I will treat myself when I am ill and hold a 'panchayat' and settle my troubles instead of wasting money on them." Although his ideas were like this, he respected his doctor and lawyer friends none the less, but never discussed about medicines and law with them. He was very simple in his habits and content with very little. The little presents we gave him on his birthdays, made him very happy.

You would be surprised to hear that father had never seen a cinema in his life. There were of course no cinema houses in Ranchi when we first arrived there, but later there was one hall where they were showing *Rio Rita*, a musical comedy. Some of his grand-children tried to persuade him to go with him and see the picture. Father in his simple ways asked, "What is in *Rio Rita*?" When he heard it was a picture full of songs and music, he said, "Do you mean to say I will pay to go and hear songs when I can do so better at home?" So all persuasions were futile and father never regretted not having seen a picture in his life.

Among the important events in Ranchi was Noidi's (Purnima) marriage to Amulya Bose in 1914, and the returning home of Dada (Asoke) and Mejda (Aloke). I remember when we first got the news of Dada's returning home it was raining heavily with a strong wind. so we closed all the doors and windows and were having our dinner, when there was a knock at the door and we wondered who could venture out in such weather. When I opened the door, I found a telegraph peon with a telegram who told me that it contained good news and he wanted 'Bakshis.' It was true as it contained the news of Dada's coming home after five years. Soon after Dada's arrival, Mejda came home and the house rang with joy throughout, but alas, this joy did not last long as both Dada and Mejda passed away after a few years. Father and mother had many bereavements but they both had wonderful faith in God and bore everything with patience. Father was a man of simple habits and high character and never indulged

in luxury. He was known as the "Sadhu" of Ranchi.

It was after many years that I went to Ranchi. The house stands just the same as it did years ago. Only a shadow hangs round it. The beautiful orchard of which father was so proud that he would take, whoever came, round the garden and give them fruits and vegetables, is no more. All the lovely fruit-trees have been cut down and houses built in small plots. Seeing all this brought tears in my eyes.

Uma De

## VII

During my student days I had heard of the late Pramatha Nath Bose as a great geologist and scientist of fame. I first saw him in the year 1908 at the Bengal Technical Institute when I was a student. He was a Rector at that time and used to come to the Institute often. He played a very important part during the establishment of the Institute and with his advice the late Sir Tarak Nath Palit donated a large sum of money for technical education to our boys when the Swadeshi movement was at its height. He (Pramatha Nath) was closely connected with the Association for the Advancement of Scientific and Industrial Education of Indians, started by the late Jogendra Chandra Ghose and others in 1904. The Bengal Technical Institute was started at 92 Upper Circular Road, the palatial building of the late Tarak Nath Palit. The late Dr. Nilratan Sarkar was its first Secretary and the late Pramatha Nath Bose its first Hony. Principal. In this connection I shall not do justice

if I do not also mention the names of Raja Subodh Mallik, Brajendra Kissore Ray Choudhury, Satyananda Bose, Rash Behari Ghose, Aurobindo Ghose,, Rabindra Nath Tagore, Chittaranjan Das and others. Subsequently, the Science and Technical department of the National College was amalgamated with the Bengal Technical Institute in May 1910. Its name was later changed into the College of Engineering and Technology Jadavpur, Bengal.

After having retired from the Geological Survey of India, Pramatha Nath was engaged by the Maharaja of Mayurbhanj as State Geologist. While prospecting for minerals, he came across a vast deposit of iron ores, at Gurumahisani. It was from him I once heard how, after his discovery of the iron ores, he tried to float a company in Bengal but was disappointed as he could not find enterprising industrialists and financiers. So he approached the great industrialist of Bombay, the late Mr. J. N. Tata who welcomed his proposal immediately. Mr. J. N. Tata had a large scheme for manufacturing iron and steel in India. In order to verify the deposits Messrs. Perin and Weld were sent to Mayurbhanj, shown round the deposits at Gurumahisani by Pramatha Nath and were extremely satisfied with quality and quantity. It may be mentioned here that it was one of the richest iron-ore deposits in the world.

In May 1914 while I was in America working at the Homestead Steel Works of the Carnegie Steel Co., I was appointed by Mr. C. P. Perin (who was then the consulting engineer of the Tata Iron & Steel Works), chemist at their Works at Sakchi

(now Jamshedpur). When I went to Mr. Perin's office at New York to arrange for a passage back to India, he asked me if I was related to Mr. Pramatha Nath Bose, the great geologist, who had discovered the iron-ore deposits at Gurumahisani. From his talk I gathered what a great respect and high opinion he had of Pramatha Nath. He also added that it had been for Mr. P. N. Bose that the Iron & Steel Works could not have been established at Sakchi.

While at Jamshedpur I had the good fortune of making the acquaintance of Pramatha Nath's second son the late Alope Nath Bose who was a chemist at the Government Metallurgical Inspectorate. It was at his place I had met my wife Purnima (fourth daughter of Pramatha Nath) and our marriage took place on the 14th November 1914 at Ranchi. I cannot end without mentioning about the article Pramatha Nath wrote in the *Tisco Review* for April, 1933, on "Discovery of Gurumahisani." He said, "The iron ores of Mayurbhanj had long been worked out by the smelters of the State, all that I did was to make them known to the Industrial public." He never sought publicity ; simple and unassuming was his nature.

Amulaya Chandra Bose

## APPENDIX



## I. LETTERS FROM P. N. BOSE

*To Mrs. P. N. Bose*

Chemthang,  
19th Sept., '89

MY DEAREST KAMALA,

We are now on the land of snow. We have been out all day to-day from 7 in the morning to 6 in the evening. I am so tired that I cannot write a long letter. I have just energy enough left to tell you that I am in perfect health. Do not forward any more letters and newspapers to Gantok, but keep them with you...

Yours ever,  
PRAMATHA

Gnathong,  
3rd Nov., '89

MY DEAREST KAMALA,

I begin to write in English, as it takes me longer to write in Bengali and my Bengali hand-writing is execrable. Please let me know if you approve of the change. Please send me Asoka, Aloka, Sushama and baby's [Surama] photographs, not that I want to refresh my memory with them, your and their images being vivid in my mind, but I like to have them.

We came here yesterday. This is a military station close to the Tibetan frontier. The officers here have been very kind and hospitable. They have given us quarters inside the fort and we have our meals with them. This place is 12,300 ft. high. My pony got disabled and I walked. The road was very steep, the ascent from the last halting place (Sodemdu) being quite 5000 feet. However I managed to walk without any serious inconvenience...

Yours ever affectionately,  
PRAMATHA



Camp Kalimpong,  
10th Nov., '89

MY DEAREST KAMALA,

... My camp-life will begin from to-day and I shall not be sorry. I have got the photos. *Bhaia* has got such an expression of naughtiness, I could not help laughing when I looked at him. Asoka and Sushama have come out very well indeed. Baby's (Surama) might have been better. Sushama's expression is so lovely and sweet! Does Asoka remember me? *Bhaia* probably never mentions my name. Sushama may have some recollection of her *Papa*. She is a very sweet little thing and has such winning ways! I suppose it will be sometime before I shall have the pleasure of seeing you all.

Yours ever loving,  
PRAMATHA

Nandod  
Rajpipla State,  
11th March, '07

... I am now in a very dense jungle by the Narbada river. For two days I came by boats and the journey was very pleasant. The scenery was charming, the falls, rapids, etc., are very fine. As the roads here are very difficult, tents cannot be carried. So I am living in leaf-huts which temporarily are cooler and more comfortable than tents.

Yours ever,  
PRAMATHA

Srinagar (*Kashmir*)  
2nd June, 1908

... The journey to this place has been very tedious and it was very hot. I am staying in a house-boat just by the side of Dr. Mitra's house and having meals at his. The house-boat is very comfortable. There are four rooms. Mrs. Mitra was telling that I should have brought you with me. If I am appointed Geologist to the State, you will have an opportunity of coming here next year. The tonga journey is rather fatiguing—two hundred miles in a tonga is bound to be... The scenery is very fine but coming up I found it rather tame compared to the scenery on the way to Darjeeling... Dr. and Mrs. Mitra have been very

good and I am quite comfortable here. If my terms are accepted by the State, I shall probably have to do a little touring for ten days or so. I must leave for Kathiawar on the 13th...I had a little time to go round to some beautiful gardens.

Yours ever,  
PRAMATHA

P. S.

I have not yet broached the subject of Asok's appointment. I shall very likely have an opportunity of approaching the Maharaja today. Dr. Mitra seeing Asok's certificates says that they are excellent and there is every likelihood of his being appointed. I hope he will be, as he fully deserves it.

P. N. B.

Empire Hotel,  
Nagpur  
18. 10. 14

MY DEAREST KAMALA,

Leaving Calcutta I halted at Burdwan, and went through the Maharaja's palace, gardens, etc. The palace is exquisitely furnished, and I liked the place altogether. But I felt so tired driving about in a *ticca*, that when I got in the train again comfortably settled. I did not like to halt at any other place. So I came right through to this place. I intend going to Raj-Nandgaon to-morrow. I suppose you won't be able to write for a little while yet. But Bimala will, I dare say, write for you. The hotel where I am staying is a very comfortable one. I am going out to see the sights of this place in the company of Babu Bepin Krishna Bose, Pleader. Peary and Haridas met me at Khandwa station and pressed me to halt. But I told them I would break journey there on my way back. Write how you all are and remember me very kindly to Mrs. U. K. Dutt.

Ever your affectly.,  
PRAMATHA

I sent a telegram this morning which I hope you will get all right.

*To Alope Bose*

Ranchi

9. 5. 14

MY DEAREST ALOK,

I am returning your paper by Book-post, with some suggestions. Perhaps you are not aware that copper smelting on modern methods was attempted at Giridih with ores obtained from Baragunda. The Company, however, failed. By the bye, I am getting prospecting licence for the ores at Baragunda.

The copper-ores of Sikkim were described by me in a paper in the "Records, G. S. I." Vol XXIV, pt. 4. Messrs Burn & Co., prospected these ores in detail. But they did not attempt to smelt them. The water-jacketed blast furnace was, I think, put up by the Nepalese contractor of Rachikhani. But it did not work satisfactorily.

I hope you have got my last letter which I wrote 3 or 4 days ago. I cannot understand how the letter I wrote about a fortnight ago in which I acknowledged the receipt of the papers returned by you miscarried.

The weather is deliciously cool for this season. The slight dysentery I had, has now practically disappeared. Rajat is expected tomorrow. All well here. Hoping you are quite well.

Yours affly.,

PRAMATHA

50 Circular Road,

Ranchi

27. 9. '17

MY DEAREST ALOK,

As you will see from my address I have now returned to Ranchi. Sushama's temperature became normal on Friday last, and your mother and Uma came to Calcutta on Sunday. Their presence has cheered up Suroma a little and on the whole, she

has borne the shock with admirable fortitude. I am expecting them all here in four or five days. Suroma will probably stay with Mrs. Roy who has taken one of the three small houses by ours, just next to Suku's, or she may stay partly there and partly in our house. I do not know exactly yet whether Prasanta and Sushama will come here or go to a hill station. I think it would be advisable for them to come here, and I am writing to Prasanta to that effect.

We have had a deal of rain, too much of it. We are over 9 inches in excess.

Did you give the news to Chinima ? When are you coming and is she coming with you ?

I am in good health. Hoping you are all in good health, and with love to Shanti, baby and yourself.

Yours affly.,  
PRAMATHA

*To Amulya Chandra Bose*

50 Circular Road,  
Ranchi  
7. 10. 18

MY DEAR AMULYA,

I am very glad to receive your letter and to hear that the attitude of Mr. Tutwillier is so favourable. Very sorry to hear Santana has had fever. If it is due to teething, I have no doubt she will get over it soon.

I think the investment in the land you speak of would be good, provided you make up your mind to stay at Sakchi. If you have to go to Mysore or elsewhere, I doubt if it would be wise. Dr. Chakravarti is a fixture at Sakchi, so he has acted very wisely.

I am giving you the following information about the minerals you speak of. You may write to Dr. H. H. Hayden, Director, Geological Survey of India, for further information. If you tell him that you have been advised by me to apply to him, I have no doubt he will take special interest in the matter.

1. Iron Pyrites. It is very widely distributed in various formations, but so far as I know, nowhere in sufficient quantity to be of much commercial importance.

2. Copper Pyrites. It is the most abundant copper ore, and is found in quantity in Singhbhum, Manbhum, Hazaribagh, Nellore, Jaipur State, etc.

3. Zinc Blende. Bawdwin (northern Shan States) is the only place where I believe it occurs in any quantity to be available commercially.

4. Sulphur. The only place in India where it occurs in any quantity that I know of is Kashmir.

5. Sodium Nitrate. I do not know of any place in India where it occurs in quantity.

Of the minerals mentioned the only one about which there is any precise information about quantity is copper. In 1916 the output of copper ore fell from 8885 tons in 1915 to 2671 tons. The ore of course includes other than copper pyrites. The greater part of the formation came from the copper mines in Singhbhum.

Please tell Chinima that I have got her letters. In regard to the Silver fish she wants for a friend of hers, I have not yet been able to get hold of the man who makes them. He took a rupee from me to make a small one some time ago, but has not turned up since. Please tell her to let me know the amount her friend wants to spend on the fish, and then I shall tell the man when he comes to make one.

Very sorry to hear you cannot get leave to come now. Hope you will be able to come later on. Suroma has had fever. So there is no knowing when she will be able to go to Sakchi if she can go there at all. With love to you all.

Yours affly.

PRAMATHA

To Purnima Bose

50 Circular Road,  
Ranchi  
19. 3. 32

MY DEAREST CHINIMA,

I was very pleased to receive your letter a few days ago.

In regard to the part I have had in the establishment of Tata's Works, the authoritative life of J. N. Tata has done me justice. I have no doubt you have got a copy of it, or at any rate, you can procure it. I have not seen the book myself. The passage referring to me was read out to me by Sir P. C. Ray. If you can get a copy of it, please send it to me. Then there was an article in *The Modern Review* by Brojendra in May 1913 which showed that I was the discoverer of the Mayurbhanj Ores. An article in *Commerce* May 7, 1913 gave a full account of the way in which Tata's works were established. I have not got a copy of *The Modern Review* article. There was a paper published at Jamshedpur, called I think, "वाणी" which had articles dealing with me as the discoverer. So far as I remember the editor came to see me and I gave him some papers relating to the matter. He may be at Jamshedpur now. I cannot lay hold of Padsha's letter in which he acknowledged the share I had in the starting of the Tata Works. But it was admitted so far as I recollect, in the second prospectus which was issued by the Company. The following is an extract from a copy of a letter which Perin wrote to Mr. Keenan on August 29, 1931, about Raja:

"Mr. P. N. Bose was as you perhaps may not be aware the Geologist for the State of Mayurbhanj. It was he who first called attention to the existence of Gurumahisani, and my first visit to that part of the world was under his direction. It is to his discovery that the State of Mayurbhanj owes the development of their iron ores, and I doubt if the Tata enterprise would ever have existed had it not been for these facts."

Perin always admitted that but for me, the Tatas would not have been at Jamshedpur. In the letter which I wrote to the late J. N. Tata just after the discovery of the Mayurbhanj ores in February, 1904, I pointed out the advantages of a site in that State. Of course, the site actually chosen was near it, and I had

but little to do with its selection and its development. Perhaps Madan referred to that. Anyway, he knows very well, that I recommended a site not far from the Mayurbhanj ores. I do not know if it is worthwhile to fight out the matter. You may show him this letter. He is a good man and a friend of mine. So I have no doubt he will do me full justice if his omission is pointed out.

Hoping Santana, Amulya, Dilip and you are doing well and with love to you all.

Yours affly.,

PRAMATHA

50 Circular Road,

Ranchi

11. 4. 32

MY DEAREST CHINIMA,

I was glad to receive your letter a few days ago. Since writing to you I came upon a letter of Padsha in reply to one in which I showed how the Tatas came to be established at Jamshedpur. I showed them to Mr. Roy who called and asked him to tell you. By the by, I came upon a letter of the editor of "उड़ो खै", S. Manindra Kumar Ghosh whom Amulya knows, in which he acknowledges receiving some information from me about the starting of the Tata Works, and he published its history in that paper. If you can procure a copy of it, I would like to see it. If you have got J. N. Tata's Life, and if possible, please send it to me. If it cannot be sent, please send me a copy of the passage relating to me. The book is by a well-known author whose name I forget just now.

Glad to hear you will be here with Santana and Dilip during their summer vacation.

It is warming up here also, but the nights and mornings are still pleasant. We are all doing fairly well. Hoping this will find you all in good health.

Yours affectionately,

PRAMATHA

*To Sushama Sen*

50 Circular Road,

Ranchi P. O.

Dated 4. 4. 34

MY DEAREST SUSHAMA,

I am very pleased to receive yours of March 15 and to hear you are all doing well.

Prasanta paid us a flying visit. He has decided to keep you all there till October next. That will be a good time for you to come back, and I hope you will spend the Puja holiday with us. Your Patna House has been damaged to some extent, but it is very good of P. R. Das to pay his rent in full. Prasanta has very hard work but considering all things he is maintaining fairly good health. I told him to give me a piece of Mayurbhanj *tassar* on my birthday similar to what you gave once. Of course, I get my annual supply of honey from Mayurbhanj. I pay a deal of attention to food as health depends mainly upon it. I hope Buddha will get his M. B. degree, and also F. R. C. S. all right. From what Prasanta said, he intends keeping you at Lourdes as it may do some good to Rani. She is such a sweet girl and so intelligent, I long to see her and of her little defects. Hope Kalyani is all right now. I hear there is a good chance of Suroma's son-in-law Sudhir getting a post at the Sibpore Engineering College. That is good news which I hope Suroma has got. Surama's daughter Budhi gave birth to a daughter a few days ago. They are both doing well. I hear Rajib was not allowed to be married in Germany and consequently had to marry in England.

I am enclosing an article which appeared in the March issue of *Prabuddha-Bharat*. Please send it to Suroma when you have done with it. I think I sent you a copy of my Bengali life-sketch which appeared in a Bengali periodical.

We are all doing well. Hoping this will find you all in good health and with love to all of you.

Yours affectionately,

PRAMATHA



## II. LETTERS TO P. N. BOSE

*From R. C. Dutt*

26 Torrington Square,  
London W. C.  
27th May, 1886

MY DEAR PRAMATHO,

We reached London yesterday in the afternoon after a most pleasant voyage. You may have seen my previous letter which I posted to Kamala from Malta. We all landed at Malta of course and saw the famous St. Mark's Church, the Government Palace and a convent of Capuchins with mummies of deceased monks in the vault below. We passed Gibraltar on the 20th and touched at Plymouth on the 24th. We are now putting up in temporary lodgings, and will shortly go into a convenient house. Till then address our letters as before, and not to this house. Behari is stopping with us, and will remove with us to our new house which we hope to secure within a week.

I am sending you by this post the remaining four Ashtakas of the Rigveda which I have revised and annotated. Kindly put the fifth Ashtaka in the Press at once, sending it with a letter to Mr. Lewis (Superintendent Govt. Printing) or taking it personally to him if you are going that way. And as each Ashtaka is out, send the next to him. I hope to see all the four out by the time I return to India.

Noren has taken the charge of reading the proofs, and passing the press order, etc. Kindly render him any help he may be in need of in the way of writing to or seeing Lewis, whenever there is occasion; and in short seeing that the work goes on as smoothly as it would if I were in Calcutta.

I look to you and to Noren in carrying the last four volumes through the press, and I have informed my subscribers accordingly in the course of the 4th Vol. By the bye I hope the 4th Vol. is out by this time.

Tell Noren that he will have to keep Max Muller's edn. of Rigveda with him when looking through the proofs. Doubts will often arise which cannot be removed without consulting that book, specially as *I had not the work by me when revising the translation*. I am not writing separately to Noren. Do please show him this letter.

I hope Amala has come down to Calcutta and is now in good health. Kamala must have felt lonely and somewhat helpless too just after our departure, but she had the energetic Kali to help her in all matters. I hope she did not find any difficulty in keeping the Rigveda accounts, etc.

We are all enjoying excellent health. London is not new to me, but nevertheless I was delighted as I drove up through the streets, and felt as if I had revisited an old—old friend! My wife also was very glad, and will see new things everyday now. Ajoy is bursting with curiosity to know this and know that, while Susila takes it like a philosopher and does not show the slightest of wonder at the new faces and new places that she sees. She goes to everyone as to known people, called a child on board the steamer "Bhaiya"—and is as much at home at 26 Torrington Square as she was at 20 Beadon Street !

As for Amala and Sarala I will let them express their impression of London in their letters. Dada has been gazing since morning at the quiet square, the wet streets, the cloudy and misty atmosphere, the rows of houses and the occasional morning wayfarers, and admits that there is something new in this view of *quiet* London. He will see something of busy London when he goes to city today.

Yours affectionately,  
ROMESH CH. DUTT

26 Torrington Square,  
London, 3rd June, 1886

MY DEAR PRAMATHO,

I was very glad to receive a letter from you from Bilaspur by the last mail and a letter from Kamala from Calcutta. We have not succeeded in getting a house yet but are negotiating for some and hope to get one within a week. In the meantime we are looking around us and visiting sites and places familiar to me like the streets of Calcutta. We heard Spurgeon at the tabernacle last Sunday and went into the House of Commons and heard the Irish debate on Monday night and revisited our old Middle Temple Hall and Library yesterday. London has been much improved within the last 15 years. The new Law Courts which had not been commenced 15 years ago are now complete and look imposing and grand and the Thames embankment too, which had just been commenced when we were in England last is now complete of

course. The Metropolitan Railway (underground) is now much extended—and many dirty houses and streets that we saw before have now been renewed and rebuilt. With all that London is old London still with its sea of men and women ever flowing and ebbing through the lively streets—its countless shops and public places—all instinct with the life and vigour of *living* people.

We have seen the National Gallery of pictures, and intend to see the Royal Academy today. We will visit the Exhibition soon. Brother follows us to every place we see and is enthusiastic in his praise of the underground railway specially. My wife does not leave the house much yet—partly because her dresses ordered here have not been done and partly on account of her inborn laziness which I am tired combating. However she must learn to come out sooner or later—she cannot be inside the house for 6 months !

The children are all right. Amala's bad tooth had to be drawn, and of course there is no more pain now. Amala and Sarala often go out with our landlady's daughters in the streets of London and all the children run about in the Square in front of our house. Ajoy has found a companion in Jowri, and the pair often go out together rambling through the streets or doing a little journey by the underground railway : just for the pleasure of the thing. Sasila with her quiet ways and her fun is the delight of all in the house.

I need not ask you to show this letter to Kamala and to Bimala, if Bimala is in Calcutta. I am not writing to them separately. Show this letter also to Noren and tell him I have read with great pleasure his letter received by the last mail and informing me that the printing of the Rigveda is going on all right. I sent you the four Ashtakas of the Rigveda (5th to 8th) last mail and hope they will have reached you before this reaches you. I have got a copy of *Sansar* first part. Is the whole novel now out in the *Prachar* ? In that case when is the second part of the book coming out in book-form ? When will my Rigveda Essays (published in the *Nabajiban*) come out in book-form ?

I returned to the Public Library the 4 Vols. of Max Muller's Rigveda before I left Calcutta. But I find that by mistake I have brought a few pages of the preface of the 3rd Vol. I am sending them by this post. Please send them to the Public Library

through Bughawan. He knows to whom the papers are to be given.

There is an Indian Society here consisting of 50 or 60 Indian gentlemen, mostly students. They have convened a meeting for next Saturday and have asked us to be present. We will try and be present.

With sincere love for Kamala and Bimala.

I am yours affectionately,  
ROMESH CH. DUTT

*From P. K. Ray*

Mussoori,  
U. P.

22nd May, 1916

MY DEAR BOSE.

I must thank you for your kindly presenting me and my wife a copy of your last book.—“The Illusions of New India.” I admire the courage and strength of convictions which have led you to write and publish the book. I agree with you that we should stick to the high spiritual ideal of our ancestors but I do not agree with you that this ideal is to be realised only by a spiritually privileged class, the other classes being used merely as a means to that end. I hold on the contrary that the high spiritual ideal should be the aim of all—both men and women and that the latter should be educated spiritually as well as intellectually not only as men’s companions and friends but also for their own sake.

You have done a grand thing by the publication of the book, by drawing our attention to the imported evils of the civilization of Europe. But the latter is bound to be transformed by the present War ; and I should not be surprised if it takes a turn to the spiritual ideal. I find indications of it in the utterances of the present preachers and thinkers of the West. But can that spiritual Ideal be realised in this world where we are living now and where our children and their children are bound to live in the future, without the necessary material and other means ? What is wanted is a just and fair valuation of the various goods of life. Extremism in either direction is to be avoided. We have been practically extremists in not recognising the importance of the material goods, while Europeans have attached too importance to them.

I read the book before I came here on the 7th May and left it there for my wife and friends to read it.

I hope you are quite well with your wife and children. Please give her my kindest regards and show her this letter.

The climate here agrees with me better than that of Darjeeling. With kindest regards to you.

Very sincerely,  
Yours,  
P. K. RAY

*From Kshitish Bose*

21 Canning St.,  
10th April, '22

MY DEAR BARDADABABU,

The anniversary of the "Kushdaha Samity" will take place at our village this year—on the 29th & 30th instant. You have been elected President at a preliminary meeting held in Calcutta the other day. The technical objection that may be raised to your election as President for this session on the ground of your being a Gaipur man was overruled by the unanimous consent of those present in favour of your election. Everybody wants you to occupy the Presidential chair this year and to guide us in our humble efforts to make the Pergunnah healthy and self-contained once again. The truth of your ideas and teachings has been brought home to the intelligentsia by current events of the day. We are all yearning to have you in our midst for this occasion. I trust the trouble you will have to take to come over will be partially compensated by the signs of new life you will see amongst us. We from our village branch of the Samity have cleared the jungle of the village and introduced 30 or more "Charkas" already. The Municipality besides digging the tank (Akkalia) and making a bathing ghat there has done some earthwork for drainage. Two private tanks have been reclaimed and the reclamation of another is in progress. The canal which falls into the "Jamuna" north of our "Borobagan" has been attacked by the Sanitary Dr. Division Bengal in connection with the Jamuna re-excavation scheme. Above all, there is an yearning amongst the people to be of use to each other and live peacefully, a strong desire to cultivate self-help and goodwill amongst themselves. I hope you are keeping good health and however averse

you may be to locomotion as you said in one of your letters, you will not deny us the privilege of your wisdom and consent in our endeavour to walk along the path of progress as chalked out by you years ago. Your presence will be of immense good to us ; it will give a great impetus to our undertaking. And now that we have at last turned round to you for guidance, I think, you owe it to us to give us the benefit of your presence and consent at the ensuing anniversary of the Samity. You will have received a formal invitation from the Secretary of the Samity and I hope you will accept it. I am not going to Ranchi during Easter—partly for want of surplus money and partly for making preliminary arrangement for the coming anniversary. Hoping this will find you all in the best of health and with Pranam,

Yours afftly.,

KSHITELSH

*From P. N. Mukhopadhyaya*

Panchavati Villa,  
Manicktolla, Calcutta.  
8. 5. 21.

MY DEAR MR. BOSE,

I have received today a letter from you for which please accept my thanks. No Report of the Council has been published, so far as I can see, since 1919 ; last year's Report has perhaps not yet been drawn up. You should however write to Hirendra Babu (Secretary) to supply you with information on any points about which you wish to be informed. As regards the results of the last General Meeting of the Council Sir A. Chaudhuri was elected our President ; Mr. B. Chakravarti, Vice-President of the Ex. Com. ; Mr. C. R. Das (whose name was proposed for the Presidentship but the proposal was not accepted) and Pandit Panchanon Tarkaratna, were among other elected Vice-Presidents of the Council ; Sir P. C. Ray Rector ; Sjt. Hirendra Nath Dutta and B. K. Roy Choudhury Secretaries ; Rai Bahadur Priyanath Mukherjee, Treasurer. You remain as our Visitor. I was one of the five gentlemen elected to the Ex. Com.

Sir Rash Vehari's magnificent gift (not less than 12 lacs, Hiren Babu tells us) is earmarked for Technical education. But then the main part (if not the whole) of Borjendra Babu's Endowment (5 lacs) will, under the terms of his Deed, be transferred

to the General side. Sj. Gopal Ch. Singha of Bhowanipur has donated a lac for education on an agricultural and religious basis ; and this may be spent for the purpose of establishing a model rural educational settlement. Subodh Babu's one lac is also for cultural education. An Ways and Means Com. of the Council (of which I am convener) has, after several prolonged sittings, nearly completed a scheme of national education in some of its aspects. A copy will be sent to you when ready. There has been quite a rush of students into the Technical Institution recently ; but the Arts side is still closed. It may, however, be possible to revive it from the next July. Negotiations for amalgamation with the N. C. O. College are going on ; the latter has now opened a medical branch. National schools are springing up on all sides, and these require to be co-ordinated. Thousands of non-co-operating students have sat for the Examination held by the N. C. O. College ; and some at least of these may seek admission. The National Council should now be able to give a definite lead to the whole movement.

Hoping you are well.

I am yours,  
P. N. MUKHOPADHYAYA

-Panchavati Villa,  
Manicktolla,  
Calcutta.  
18. 7. 21.

MY DEAR MR. BOSE,

Many thanks for sending me a copy of your "National Education and Modern Progress." I am also grateful to you for your very kind reference to me in the Preface. I have read the book with great interest and delight, and I need hardly add that the agreement of my views with those of so thoughtful, able and lucid a writer as yourself is a source of both satisfaction and encouragement to me. Yes, the idea of a rural educational settlement deserves to be strongly impressed on the minds of those who are now attempting an educational reconstruction in the country, and I am sure, that a careful perusal of your present book (as also your other works) will go a great way in making sound ideas about the principles and methods of national education prevail. The

principal thing which seems to be required is that some of the "Illussions" of Neo-India should go ; and I have no doubt that your writings will help those illusions to pass away.

In the schemes which have been recently published over my signature in the columns of the *Servant* I have given a prominent place to the idea of village settlement ; and in my next instalment on the subject I propose to draw pointed attention of the public to your writings on the subject.

Have any reviews of your best book appeared in the papers ?

With my best thanks and regards,

I am etc.

P. N. MUKHOPADHYAYA

Panchavati Villa  
Manicktolla,  
Calcutta,  
2. 10. 21.

MY DEAR MR. BOSE,

Many thanks for your letter of the 23rd ultimo. I had been away from here.

I need hardly say that I am in agreement with you as regards the outline scheme of an educational settlement which you presented in your note. I am particularly glad to find that your proposed settlement will be a self-contained and self-sufficient one ; that it will supply its own needs about food, clothing, etc. There will be agriculture, gardening, dairing work, spinning, weaving, carpentry and other suitable forms of simple industry.

The settlers (*i. e.* students and professors) will toil themselves for the purpose of preparing and developing the settlement. This kind of actual work in the field and workshop will be an essential feature in their life. Life in the colony will be laid on the lines of Brahmacharyya and Guru-griha as closely as possible.

The 'self-regarding' and 'other-regarding' (*i. e.* altruistic) virtues should be harmonized. In many a so-called ashrama I have found that the one set is sought to be cultivated at the cost of the other, with the result that the product of such a system of education lacks that inner equilibrium which is the *sine qua non* of correct noble and beneficent living. It is not infrequently



that we find men who have learning and sadachara, but who cannot often rise above narrow and selfish considerations ; on the other hand, we also find men who are out "to live for others" without first caring to know what 'life' and its possibilities, its forces, methods and ideals are. I am therefore glad to find that you lay due stress on both the aspects. I am gratified to find also that you propose to confer Swaraj on the professors on matters educational in the colony. This as well as the principle which prohibits Vidya-vikraya are the cardinal principles in the Hindu systems of education. Professors of the right stamp should be selected with the greatest care ; but after that, they should be left to manage their own affairs. Society should be their rakshak and sevaka only.

Besides a secluded and spacious settlement of this type, I have also, in my writings, laid great stress on the starting of small educational 'missions' or colonies in the villages of Bengal, so that in course of time every village may come to possess a 'mission' of its own as a sort of 'demonstration farm' or 'object lesson' of healthy, pure, straight, beneficent and cultured lives in the midst of its malaria, poverty, depression, disunion, etc. If this can be done, there will be direct *action* and not merely *action at a distance*. We require however a secluded settlement (ashrama) to turn out the right sort of workers to start such 'missions.'

When sending your scheme to Hiren Babu, please work it out a little as regards the financial side of the proposed settlement. When to get the land, how much will it cost, etc.—in short, an outline budget.

Yours sincerely,

P. N. MUKHOPADHYAYA

P. S. The first article I sent to the *Servant* was lost so nothing has yet appeared. But the Editor is pressing me to write again. When I do I shall refer to your educational ideas.

### III. EVIDENCE BEFORE THE PUBLIC SERVICE (ISLINGTON) COMMISSION

(Calcutta, Wednesday, 21st January, 1914)

By P. N. Bose

80. 472 (1). Method of Recruitment: (a) Superior Service—  
At present, whenever there are vacancies, the Secretary of State advertises them and makes a selection from among the applicants according to the advice of his geological reference, who is a retired member of the Geological Survey of India. As the candidates do not make any special study of Indian Geology, there is no necessity for the appointment of an Anglo-Indian expert to judge of their qualifications. There is certainly strong objection to such a judge in the interest of Indian candidates. One of the heads of the Geological Survey of India, Mr. Medlicott, was strongly of opinion that Indians were incapable of scientific research. Several other Anglo-Indian gentlemen have been known to hold similar views. There are others, again, who apprehend danger to the prestige of the British Government from the employment of Indians to do very important and responsible work even if they had the capacity for it. They consider the suppression of the capable Indian to be essential for the maintenance of British prestige in India. For instance, Surveyor-General Colonel De Pree, who for some time controlled the largest Scientific Department under the Government of India, said in a memorandum submitted to the last Public Service Commission : **███**

“It is suicidal for the Europeans to admit that natives can do any one thing better than themselves. They should claim to be superior in everything, and only allow native to take a secondary or subordinate part. In my old parties I never permitted a native to touch a theodolite or an original computation, on the principle that the triangulation or scientific work was the prerogative of the highly paid Europeans and this reservation of the scientific work was the only way by which I could keep up a distinction, so as to justify the different figures of pay respectively drawn by the two classes, between the European in office time and the native who ran him so close in all the office duties. Yet I see that natives commonly do the computations nowadays, and the Europeans some other inferior duties.”

“Both classes of Europeans (official and nonofficial)” observes Sir Henry Cotton, are equally “reluctant to admit the natives to equality,” and the official class is especially aggrieved, because the natives “are invading preserves which have hitherto been free from any intruder.”

It is but seldom that we have such frank admissions. There are, of course, Anglo-Indian gentlemen who are more impartial and more sympathetically disposed towards the Indians than men like Medlicott and De Pree. For instance, Dr. Oldham, the first head of the Geological Survey of India, had the most unshaken confidence that with even fair opportunities “of acquiring such knowledge (that of the Physical Sciences) many Indians would be found quite competent to take their place side by side with European assistants either on this Survey (the Geological Survey) or in many other ways.”

That men of the Oldham type, however, are in the minority in the Indian administration is inferable from the fact that it is not their views but those of men of the Medlicott or De Pree type which have so far shaped the policy and determined the course of action of the Government of India.

Under these circumstances, it is highly desirable that no Anglo-Indian gentlemen should act as advisers to the Secretary of State in making scientific appointments. I would suggest the formation of a British Committee of experts in all the branches of natural science for advising the Secretary of State whenever he has to make such appointments. A Sub-Committee of this body composed of three experts, one in Stratigraphical Geology, another in Petrology, and the third in Palaeontology, would do for making appointments in the Geological Survey of India. It is desirable that the President of the Geological Society of London should be a member of this Sub-Committee. Before making a selection they should subject the candidates who may offer themselves to a competitive test.

(b) Subordinate Service—There is as yet no adequate provision for the teaching of Geology in any institution in India. There are, so far as I am aware, only three Government Colleges in India where the subject is taught—the Presidency Colleges in Calcutta and Madras, and the Poona College of Science. The Lectureship at each of these institutions being an appanage of

the Geological Survey of India, the Lecturer is constantly changed according to the exigencies of that Department. Ten years ago, the average term of a Geological Lecturer at the Presidency College, Calcutta, was about two years. The greater portion of his time was taken up by survey work, and it was only for four or five months during the recess that he was able to devote four or five hours a week to his duties at the Presidency College. Geology has grown so largely of late that even a whole-time man, however able, could do but scant justice to all its branches. For effective teaching it would be desirable to have a Specialist Professor for each of its three main branches—General Geology, Mineralogy, and Palaeontology. One can easily imagine, therefore, what progress might be expected from the intermittent lectures of a professor changed every two years or so in the average who had to be away from Calcutta during the healthiest part of the year, and who had to perform his professional duties along with those of a Department by which he is employed as a permanent whole-time officer. When I occupied the chair of Geology at the Presidency College, Calcutta (1901-05), I drew the attention of the Educational authorities to this unsatisfactory state of things and had a permanent laboratory assistant appointed not without some difficulty. But even with his help I found I could do but little justice to the duties of my post. Matters improved a little after my retirement while Mr. Vredenburg was Lecturer, in that he was given duties at the Geological Survey office which kept him in Calcutta throughout the year. Under his teaching, which was far more systematic than ever before, graduates were turned out, the picked among whom might be employed in the superior service. But latterly matters have, I am informed, become as bad as before. Until Government takes steps to make geological teaching more efficient than at present teaching some of the geological graduates turned out by the Universities are quite competent to carry on the work of the Geological Survey under the supervision of an experienced officer of the superior service. In one respect they have an advantage over the English recruit. They are better grounded in Indian Geology at the start. At present for want of suitable openings they generally take to the legal profession, in which their geological knowledge is wasted. If the number of sub-assistants be gradually increased from two to twelve the Geological Survey would advantageously absorb a good number of them. The two sub-assistants now on the

Survey are reported to be doing useful work, and there is no reason why more men of same calibre should not be found.

If the increase just suggested be effected, the number of Assistant Superintendents could be reduced from 15 to 10 without any detriment to the work of the Survey, as much of the work which is done by them now would then be done by the sub-assistants. The reduction would also provide for the increased expenditure on sub-assistants. Prior to 1906, the sanctioned staff of the Geological Survey embraced seventeen gazetted appointments (including the Director and the Palaeontologist). Two of the appointments, however, were kept open—one to provide the pay of the two sub-assistants and other to meet the cost of palaeontological work. So, in practice, the number of gazetted officers never exceeded 15. The adoption of my suggestion would mean reversion to this number.

Of the ten assistant Superintendents of the Superior Service, three should be permanently located in Calcutta, one as Curator, another as Palaeontologist, and the third as Professor of Geology at the Presidency College (until the appointment of a permanent Professor). The present system of continually changing these officers should be discontinued, as it leads to inefficiency. If my scheme be adopted, there would be available six or seven assistant Superintendents (who would be mostly junior and inexperienced officers) for field work, and the normal composition of each field party would be :

One Superintendent (or a senior Assistant Superintendent),

Two or three Assistant Superintendents,

Three or four Sub-Assistants.

The step I recommend would not lead to economy, at least in the immediate future. But from the Indian view-point its advantages would be immense. The aim of a Geological Survey is twofold—(a) Development of the mineral resources, and (b) Geological research.

In regard to the first of these objects, unless it is effected by indigenous agency, the gain of the country is inconsiderable, if not altogether problematical. Extended employment of Indians on the Survey would be an incentive to geological training and would thus gradually disseminate among the Indians a knowledge of the mineral resources of their country and of the methods of their utilisation.

As regards the second object of a Geological Survey—research for the advancement of geological science—it is a worthy one, but so far as the Government of India is concerned, it should obviously be carried out by encouraging research among the people of India. The Geological Survey of every country is manned by officers recruited in that country, and that should be the goal of the Geological Survey of India.

The designation of the officers of the Subordinate Service may be changed from “Sub-Assistants” to simply “Assistants.” Deserving officers of the Subordinate Service should be promoted to the Higher Service. But as this provision may, for various reasons, remain a dead-letter, I would suggest that they be afforded facilities after five years’ service to proceed to England and compete for the Higher Service.

In regard to the recruitment of the Subordinate Service it should be effected by competition, as in the case of Higher Service.

(80, 473-(IV). Conditions of Salary—(a) Superior Service—The scale of pay for the Superior Service as revised in 1906 is fairly liberal and should attract high-class men. In order to make the service still more attractive, I would allow the officers to take private engagements. For short terms a scale of fees should be fixed by the Government according to the standing of the officers, and they should be entitled to as certain percentage of the fees. For long periods the services of the officers would be lent. At present it is difficult for private parties to secure the services of competent geologists to examine and report upon their properties. I see no valid reason why the Survey should not come forward to help them, the development of the mineral resources of the country being one of its main objects, especially as by rendering such help a part at least, of the expenditure on it would be recouped. Besides, the calls for advice from the public and the way in which they are met would be a test of the utility of the Geological Survey Department. If the advice of the Survey officers be not sought for to the extent it should be, the Government might consider the advisability of substantially reducing its strength. Though there is, I believe, a rule prohibiting Survey officers from taking private engagements, it was not enforced until 1895, when my services were requisitioned by a European firm in Calcutta to examine a coal property for them. Though

I was on furlough at the time, Government did not allow the firm to avail themselves of my services.

I think it would be well for the chemical laboratory of the Survey to make assays for the public on terms similar to those on which the Mint undertakes them at present. The expenses on the laboratory would then be recouped to some extent, and the public would have the benefit of authoritative and reliable analyses.

(b) *Subordinate Service*—The initial pay of officers in this service now is Rs. 150-, and it rises by an annual increment of Rs. 10- to Rs. 300 in 15 years. If my proposal in regard to the increase of their number be adopted, I would suggest their gradation as follows :

First Grade, two officers, Rs. 350-30-500.

Second Grade, four officers Rs. 250-20-350.

Third Grade, six officers, Rs. 150-10-250

Officers of this service should, like those of the Superior Services, be permitted to take private engagements and be paid a certain percentage of the fees, which may be prescribed for such engagements by Government.

#### IV. THE CURE OF UNEMPLOYMENT : NEGATIVE AND POSITIVE

BY PRAMATHA NATH BOSE

In the West, unemployment usually affects the proletariat when Industry fails to absorb Labour, solely dependent upon it for subsistence. In India, however, there are but few workers who are so dependent, and it is the bourgeoisie that are chiefly concerned with the unemployment problem. It has become serious enough to exercise our brains only since the beginning of the current century. I well remember the time when it did not exist. It is most acute in Bengal where Westernisation is most pronounced, and is least marked among such sections of our community as Marwaris, Bhatias and Kachhis who are least influenced by Western civilization. These facts give us a clue to the root cause of the problem and that is our cultural subjection, which as I have shown elsewhere\* has proved far more

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\* *Swaraj—Cultural and Political, Some Present-day Superstitions, Survival of Hindu Civilization, etc.*

injurious than political subjection. From remote antiquity despite numerous political revolutions, India maintained her cultural Swaraj until the earlier years of British Rule, when Sir Thomas Munro declared, that "If a good system of agriculture, unrivalled manufacturing skill, a capacity to produce whatever can contribute to either convenience or luxury schools established in every village for teaching, reading, writing and arithmetic, the general practice of hospitality and charity amongst each other, and above all, a treatment of the female sex full of confidence, respect and delicacy are among the signs which denote a civilized people, then the Hindus are not inferior to the nations of Europe, and if civilization is to become an article of trade between England and India, I am convinced, that England will gain by the import cargo."

Of all sections of our community the *Bhadraloks* have been hit the hardest by the unemployment problem. They are reaping, at least partly, as they have sown. There is no demand of their Westernised leaders in the press and on the platform during the last half century which has been more claimant and more insistent than that for universal mass education for the uplift of the so-called "Depressed Classes." As a consequence of the propagation of such so-called education, the more promising and resourceful of our agricultural and trading classes abandon agriculture and trade which on account of their hereditary aptitude they might have improved, and in which they would at least have made a secure living to overcrowd the ranks of impecunious physicians and lawyers and of penurious candidates of various services, the wages of which they have, by adding to the keenness of competition, brought down to figures which would be derogatory even to artisans who have not to maintain the genteel appearance of the *Bhadralok* class. Thus the economic result of the uplift movement has been as disastrous as the ethical, its propagation being accompanied by considerable diminution of that most valuable asset of humanity, benevolence, owing especially to the recent recognition by our leaders and the Government of the pernicious communal principle in the recruitment of the State-services. Alas ! our social atmosphere is becoming saturated with bitterness, jealousy and hatred ; and class warfare is being waged all over India, the "untouchables" against caste-Hindus, and the lower against the higher castes.

**There are various other ways in which the strong pro-Western**



bias of new India has adversely affected our economic condition, and thus aggravated the unemployment trouble. The propagation of the Western doctrine of "wanting more wants" (euphemistically designated "elevation of the standard of living") partaking as they mostly do of the character of superfluities, inutilities, futilities and fatuities, is abbreviating almost to the vanishing point our meagre margin between sufficiency and privation without any compensating advantage to speak of. Besides, by inordinately enhancing the stringency of the struggle for animal existence and consequent keenness of competition, it is strongly reinforcing the class-antagonism which, as we have seen above, is fostered by the fatuous uplift movement. The perverse mentality of "every body for himself and devil take the hindmost" has begun to pervade all sections of our community.

Then, again, the Neo-Indian predilection for representative government after the Western fashion, has led to the supersession of the indigeneous form of democracy, the village self-government, which was well-suited to the economic condition of our people, by its modern Western form which apart from its sinister disintegrating influence as evidenced by the communalism and provincialism, it is promoting, is proving economically ruinous. Owing to the multiplication of costly Governors with their usual paraphernalia of highly expensive Councils and an infinity of State departments, administration has become so very top-heavy that it is out-running the capacity of our people to support it, and is co-operating with the causes mentioned above to accelerate their economic crisis.

## II

From what has been said above, it will, I trust, be seen that there can be no satisfactory solution of the unemployment problem which is intimately bound up with our economic condition unless we are able to retrace our steps from the path of Western civilization so far as it is prejudicial to it and go back to the simple life which obtained about a century or so ago. It may be called the negative method of solving the unemployment problem. If it could be carried into practice, the present cheapening of food-grains instead of being a theme for jeremiads in the press and on the platform would rather be one for hallelujah. But that it is not practicable to any very great extent is evidenced by the persistent pursuit of the path of Western civilization by large numbers of my Neo-Indian compatriots with their Western

slogans of equality, mass-education, "want more wants" and democracy. Its practicability was questionable even half a century ago when the unemployment trouble was barely foreshadowed. And on my return from Europe in the eighties in the last century, it appeared to me that the principal way in which the economic condition of our country could be improved was by her industrial regeneration on modern methods by Indian agency. It may be conveniently called the positive method of solving the unemployment problem. I devoted what time and energy I could spare from service to agitate for the spread of higher scientific and technical education which had been sadly neglected but which is indispensable for it. My humble efforts in that direction crystallized in 1886 in a pamphlet on "Scientific and Technical Education in Bengal" which was well received by the public. The Calcutta University instituted I. Sc. and B. Sc. Examinations on the model of the London University in the beginning of the current century; marked improvements were effected in the teaching of science, at least in Government colleges, provision was made for the training of mining engineers at the Sibpur Engineering College; and the Bengal Technical Institute was established in 1906.

But, it was obvious, that the expansion of scientific and technical education would not do much good unless Indian enterprise came forward to absorb the recipients of such education. So, as early as 1891, an Industrial Conference (the first of its kind, I believe) was held in Calcutta at which I had the honour of presiding to tackle this problem. The establishment of the Indian Industrial Association was the most important outcome of that Conference. The Association did much good to promote Indian industry, especially by its annual exhibitions.

I am saying all this in order to show that industrial development which is now recommended as the chief remedy for unemployment has been tried during the last three decades, but has failed. The facilities for technical and scientific training in India have immensely increased within that time and hundreds of our young men have been proceeding to America and Europe for such training. Strenuous efforts have also been made for industrial development, and they have been fortified by Swadeshi movements. But the wrecks of numerous industrial ventures, the volume of foreign imports, and the terrific increase in the acuteness of the problem of unemployment among our technically

educated young men show what little success they have met with. I have elsewhere discussed the causes of this failure. Dearth of capital is the most important. We can hardly realise without straining our imagination, the titanic industrial investments of the nations whose manufactures flood our markets and how very deep and how very vast is the economic gulf between them and India. And she can never expect to add to her wealth like some of her industrial rivals. The wealth which poured into England between the date of Plassey and that of Waterloo—variously estimated at £500,000,000 to £1,000,000,000—is surmised by some to have been an important, if not the most important factor in the development of her mammoth industries during their infant stages. The industrial revolution of Germany began shortly after the Franco-Prussian War, and it appears to have derived its initial impulse, though indirectly, from the huge indemnity which Prussia wrung from France. The acquisition of Formosa, Korea and the Southern half of Saghalian, and the political influence which she acquired in Manchuria gave immense impetus to the industrial development of Japan.

The failure of the positive method of solving the unemployment problem has led me latterly to stress the importance of the negative method. Just as the harmonious movements of the stars are effected by centrifugal and centripetal forces, so the restoration of the harmony of our social organization would depend upon the proper balancing of the centrifugal forces of the modern culture of the West and the centripetal forces of the ancient culture of India which are acting upon it in opposite directions.

The Neo-Indian is generally so obsessed by Western fashion, that in a climate where air-bath is pleasant and beneficial to health he covers himself up *cap-a-pie* so as to stop all passages to the ingress of air. In three decades between 1881 and 1911, the population of India (including Native States) increased from 253,891,900 to 315,156,396, that is about 24 per cent. Within that time, however, the imports of cotton and woollen manufactures rose in value from Rs. 23,17,10,610 to Rs. 45,62,27,999, that is to say, about 96 per cent, and that too in spite of *swadeshi* and boycott movements and while the number of cotton mills in India rose from 58 to 234, and that of woollen mills from 2 to 5. Making allowance for increased European population, I do not think I shall be far out of the mark if I conclude that our textile requirements between 1881 and 1911 have been at least doubled. Later

figures will, I think, confirm this conclusion which I arrived at a few years ago. Yet it cannot be said that two or three generations ago, our people were less healthy, less comfortable, and more lacking in the essentials of civilized society than their progeny of to-day, though the latter present a much smarter appearance so far as habiliments and other externals of civilization are concerned. From my own experience I can say the former were healthier and happier. Clothing is the chief item of our economic drain. But there are numberless other items which swell it substantially. Cigarette was hardly known about the close of the last century. In 1911, however, nearly half a crore worth of cigarettes was imported. The imports of foreign boots and shoes more than doubled between 1900 and 1909. Between 1901-02 and 1910-11, the value of imported provisions rose from Rs. 1,98,46,721 to Rs. 3,02,03,770, that of glass and glassware from Rs. 94,43,749 to Rs. 1,51,92,052 and that of drugs, medicines, and narcotics from Rs. 1,07,98,728 to Rs. 1,51,052. The Neo-Indian predilection for motor cars, refined sugar, soaps and Western games, amusements, toys, etc., is also largely responsible for our present industrial servitude.

The failure of the positive method of restoring the industrial independence which India enjoyed in the beginning of the last century when instead of importing she exported her piecegoods and sugar, has led me latterly to accentuate the importance of the negative method. I have, for sometime past, been firmly convinced, that it would be wiser for us to strive to check the recent phenomenal growth of our requirements by way of clothes, shoes, socks, pottery, glassware, etc., and to revert to 'gur,' 'hooka,' and such cleansers as oil, mud and grampowder, than to try to multiply cotton mills, tanneries, potteries and sugar, cigarette, hosiery, soap factories, etc., in short to revert to the indigenous ideas of decency, aesthetics and comfort instead of cultivating and fostering a taste for brummagem fineries...

The negative method suggested above differs from *swadeshism* as usually understood in the fact, that it would not countenance the efforts which are being made to minister to various new wants which have sprung up under Western influence and which partake of the nature of futilities and fatuities. Our resources would thus be husbanded for the application of the positive method in more useful directions, especially in agriculture which is pregnant

with immense possibilities for the solution of the unemployment problem. As I have said above, the negative method under existing condition, is not likely to be very largely adopted in New-India. But even its partial adoption would, in these days of cheap food, minimise the rigour of the unemployment problem, especially if we could revert to the benevolent arrangement of our joint-family system. Besides, the fundamental principles of the negative method would be universally applicable. Its adoption would be fruitful of wholesome results in the West as well as in the East. Simple life, its necessary consequence, would be as beneficial to the Occidental as to the Westernized Oriental...

#### IV. CORRESPONDENCE ON BEHALF OF THE TATAS

The Tata Iron & Steel Co. Ltd.  
S. M. Dhar, Esq., C. I. E., I. C. S. (Retd.)  
Deputy Agent,  
Tata Industries Ltd.

Jamshedpur,  
29th May, 1951

MY DEAR MRS. SEN,

In the enclosed official letter I am conveying the decision of the Tata Iron & Steel Co. to contribute Rs. 2000 towards the publication of a Biography of your father the late Mr. P. N. Bose, on which you had spoken to me during my visit to Patna last March.

Regarding your suggestion about sending you some materials about my father the late Mr. Mohini Mohon Dhar, who was associated with your late father at the time, you will see from the copy of Sir Lewis Fermor's speech at the memorial meeting (enclosed with my official letter) that on retirement from the Geological Survey of India in 1903 the late Mr. P. N. Bose joined the service of Mayurbhanj State. My father, who was Dewan of the Mayurbhanj State at the time and was largely responsible for the development of the State under the regime of the late Maharaja Ram Chandra Bhanj Deo, brought the late Mr. P. N. Bose for the purpose of developing the mineral resources of the State. It was in the course of the mineral survey of the State that

the iron-ore mines at Gurumahisani were discovered by the late Mr. P. N. Bose, and these mines were brought by him to the notice of the late Mr. J. N. Tata, which ultimately resulted in the establishment of the steel industry at Sakchi (now named Jamshedpur). The certificate of approval as well as the prospecting license for iron ore granted to the late Mr. Jamshedji Tata bears the signature of my late father Mr. Mohini Mohon Dhar. Sir Lewis Fermor mentioned some of these facts in his after-dinner speech.

Yours sincerely,  
S. M. DHAR

Mrs. P. K. Sen.,  
Patna.

The Tata Iron & Steel Company Limited  
(Agent's Office)  
Jamshedpur

29th May, 1951

AO-2924-51

*Late Mr. P. N. Bose—Biography*

DEAR MRS. SEN,

Please refer to your letter of the 24th March 1951 and my reply thereto No. AO-1781-51, dated 31st March, 1951 regarding your request for moving the proper authorities for a contribution for the publication of a Biography of your father late Mr. P. N. Bose. Your request has been fully considered by this Company and I am now very glad to convey to you its willingness to contribute Rs. 2,000 towards the publication of the Biography. It is noted that you propose to get 500 copies printed at the above cost. Will you please let me know when you wish me to remit this amount to you ?

2. Although the amount we have contributed is to meet the printing charges of 500 copies only, you may, if you so desire and funds are available to you, get 1000 copies printed as the extra cost involved will not be very high.

3. As was suggested by you, the Steel Company would like to retain the copyright of the book, and we should like to have 50 copies of the publication for distribution at this end. Please let us have the manuscript for our perusal before it is sent for final printing.

4. You were probably present at the memorial meeting of your late father held in Jamshedpur in 1938. This meeting was presided over by the late Sir Ardeshir Dalal and the bust that was erected at Jamshedpur was unveiled by Sir Lewis Fermor. I enclose a copy of the proceedings of the meeting and we shall be glad if the account given therein be incorporated in the Biography.

5. On behalf of the Steel Company I wish to felicitate you on your excellent idea of having the Biography of your late father published and I hope that it will soon see the light of the day.

Encl.

Yours sincerely,

S. M. DHAR.

Mrs. P. K. Sen, M. L. A.  
Bayley Road  
Patna.

#### V. *The P. N. BOSE MEMORIAL*, 1938

An interesting ceremony of unveiling the bust of the late Mr. Pramatha Nath Bose was performed by Sir Lewis Fermor on March 13, 1938 at 5 P. M. at Jamshedpur.

The following distinguished visitors were present at the above function :— Sir Lewis and Lady Fermor, Mr. A. R. Dalal, Sir B. L. Mitter and Lady Mitter, Mr. and Mrs. J. C. Mukherjee, Mr. T. K. Ghosh (Editor and Proprietor of the *A. B. Patrika*) and several others. Other guests present included prominent officials of the Tata Iron & Steel Company Ltd.

Mr. Ghandy, the General Manager of the Tata Iron and Steel Co. Ltd., in proposing Mr. Dalal to the Chair spoke as under :

“Shortly after the late Mr. P. N. Bose had passed away, a public meeting of the citizens of Jamshedpur was held and it was resolved that in recognition of Mr. P. N. Bose’s connection with the Steel Industry established at Jamshedpur, steps should be taken to perpetuate his memory and a committee was appointed to decide the form the memorial should take.

“The Committee decided upon a bust of the late Mr. P. N. Bose for erection on a suitable site in Jamshedpur and the Steel

Company approved the Committee's recommendation that it should be erected on this spot. The funds raised amounted to approximately Rs. 5600, the major portion having been contributed by the Steel Company and Tata Sons Ltd. There will be a small balance left and the present intention is to utilise it for the purpose of erecting a small memorial at Gurumahisani, this being the place where our first ore deposits were discovered in Mayurbhanj State.

"The execution of the bust was entrusted to Mr. K. C. Roy of Calcutta, and the canopy to Messrs. T. N. Banerjee, also of Calcutta."

Mr. Dalal, on taking the chair, spoke as follows :

"We have met here to-day to do honour to the memory of a man to whom the Steel Company owes a very deep debt of gratitude. But for the discovery by the late Mr. P. N. Bose of the extensive iron-ore deposits in Gurumahisani the Steel Works to-day would have been situated at a place much farther removed from the coal-fields and the port of Calcutta. It is in the fitness of things that the bust of the great geologist and the very lovable and modest gentleman, Mr. P. N. Bose, should be unveiled by another distinguished geologist in the person of Sir Lewis Fermor. I know that Sir Lewis and Lady Fermor are here today amongst us at some sacrifice of personal convenience and we welcome them cordially in our midst. I now request Sir Lewis to unveil the bust."

Sir Lewis in unveiling the bust of late Mr. P. N. Bose, said :

"It is a privilege and pleasure for me to come here today to unveil the bust of my old friend, Mr. Pramatha Nath Bose. It is unnecessary to explain my privilege, and it is a pleasure, for I joined the Geological Survey of India before Mr. Bose retired from it. Therefore, I made his personal acquaintance and at intervals renewed the acquaintance which gradually developed into friendship. Mr. Bose was born in 1855. He died some four years ago. He was educated at Krishnagar College, then studied in Calcutta, and the University of London, England, finishing up with a course at the Royal School of Mines. He obtained an appointment in the Geological Survey, and came out to India a few months before I was born (in the same year). While in service he made periodical surveys in Central India and the Central Provinces in particular, and he retired in 1903 on the 1st



of December, that is to say, at the end of the year. He immediately joined the service of the Mayurbhanj State. In the years after his retirement he also made a mineral survey of the States of Rajpipla and Patiala. It was during this survey in Mayurbhanj that he came across iron-ore deposits. That is to say, he made the discovery of iron ore at Gurumahisani. Towards the end of his life he claimed modestly no credit for his discovery. All he did, he said, was to bring iron-ore deposits which had long been known to the indigenous smelters to the notice of Mr. J. N. Tata. Be that as it may, it is to Mr. Bose's work that the plant of the Tata Iron and Steel Company is now located at Jamshedpur instead of, probably, in Central India. To appreciate the value of this discovery one has to go back to the endeavours of Mr. J. N. Tata to start an iron and steel industry in India. Mr. Tata did not know whether an iron-ore deposit was available or whether a suitable site could be had for the establishment of iron and steel industry. He therefore got into touch with an American firm of Engineers, chief of whom were Messrs. Perin and Weld. Investigations were carried on; work was begun in the Chanda district in the Central Provinces and then the interest was transferred to Raipur district. Boring operations led to the discovery of enormous deposits of iron ore at Dhullee and Rajhara. However, Mr. P. N. Bose discovered the Gurumahisani iron-ore deposits in 1904, and the result of this discovery led to the establishment of the iron and steel industry in Sakchi.

"There is no doubt that in making this timely discovery Mr. Bose prevented the site of the Works being established in a wrong place from the operating point of view. Therefore, the Company must be always grateful to Mr. Bose. You probably would like to hear a few words about Mr. Bose's later career.

"After his retirement he went to Ranchi where he took an interest in natural philosophy and started writing a book on the history of civilisation. He also realised the necessity of India doing something in the way of technical education and it was due to him that the Bengal Technical Institute of Calcutta was formed and he was for some years the Rector of it. I once had the pleasure of visiting him when I went to examine some Tin deposits he was interested in, in the Hazaribagh district, and well remember the very pleasant time I spent with him although it was a very perspiring time in the monsoon. He was a member of the Asiatic Society of Bengal and in 1884 that Society celebra-

ted its 100th birthday, for which the Society published a centenary volume containing the activities of the Society for the first century. The science part of that account, published by the Society, was entrusted to Mr. P. N. Bose to be written up. This I discovered 50 years later in 1934 when the 150th celebration of that society took place. It was very remarkable that Mr. Bose who had written the account of the science section for the Centenary Volume, was alive when this 150th celebration took place.

“You have there a representation of Mr. Bose and it seems to me appropriate that this bust should be placed at a central site in Jamshedpur, as it was due to Mr. P. N. Bose’s discovery of rich iron-ore deposits that the establishment of the Steel Works in its present site was made possible.”

Sir Lewis and Lady Fermor then placed wreaths of flowers on the bust of Mr. P. N. Bose. Sir B. L. Mitter spoke as follows :

“I deem it a great privilege to be associated with the function of this evening. I am sure you will share my regret that Mrs. P. N. Bose, by reason of physical infirmity, is unable to be present here today, but a number of her children and other relations are here and on their behalf I have the pleasure and privilege of thanking the Memorial Committee for bringing to completion the above memorial of Mr. P. N. Bose. I also thank the Steel Company and Messrs. Tata Sons Ltd., for the great help they rendered in making this memorial possible and I particularly mention, in this connection, Mr. Dalal, who has always shown encouragement and sympathy in this matter. It is a matter of singular appropriateness that Mr. Bose’s memorial should be set up at Jamshedpur. Mr. Bose was a strong believer in developing the mineral resources of India, and Jamshedpur, if I may use the expression, is really the hub of the mineral industry in India. To the members of Mr. P. N. Bose’s family his memory is naturally dear, but the establishment of his memorial at Jamshedpur, thereby enshrining and perpetuating his memory here is a matter of great pride to all members of his family and on their behalf I express my gratitude and the gratification which this memorial has caused. Jamshedpur has realised Mr. J. N. Tata’s dream, and no Indian can fail to appreciate that. I can assure Mr. Dalal that so far as the descendants of Mr. Bose are concerned, this place will ever continue to be a place of pilgrimage.”

Mr. Dalal's concluding speech :

"Ladies and Gentlemen : I apologise for addressing you a second time, but the very kind words which Sir B. L. Mitter has just spoken, require some kind of acknowledgement. So far as the humble share of the Steel Company in the matter of this memorial is concerned, I can honestly say that we have regarded it as a matter of simple duty to a man whose memory we cherish and we did what little we could in order to perpetuate it. We are very delighted to find Sir B. L. Mitter and Lady Mitter among us today. Some of you might perhaps have read a few days ago of the occupation or want of occupation of the judges of the Federal Court. However that may be, I can assure you that the Advocate-General is a very busy man indeed and it is very good of him, amongst his numerous occupations, to have spared time to be here today.

"As for Lady Mitter, wherever she is known whether it be in Calcutta, Simla, or in Delhi, her popularity is second to none on account of her unaffected charm and simplicity of manners. We are not only very pleased, but are deeply touched that the children of the late Mr. P. N. Bose are all here amongst us today in pious homage to the memory of their father. We welcome them."

Dr. Mitra spoke as under :

"It is my proud privilege this evening to be entrusted with the task of proposing a vote of thanks to the Chair. It will be presumptuous on my part to dwell upon our Chairman's capacity for organisation and of getting things accomplished. Mr. Ghandy had indicated in his review earlier part of this afternoon how generously the management of the Steel Company has helped the P. N. Bose Memorial Committee. I believe I am betraying no secret when, to what Mr. Ghandy has said, I add that behind this all has been the guiding and sympathetic personality of Mr. Dalal. But for his keen interest, it is not too much to say that we would not have had the memorial of the great man whom we are assembled here to honour. On behalf of the P. N. Bose Memorial Committee and on behalf of the citizens of Jamshedpur, I convey to you, Sir, our most sincere thanks."

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